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fueloil & oil heat

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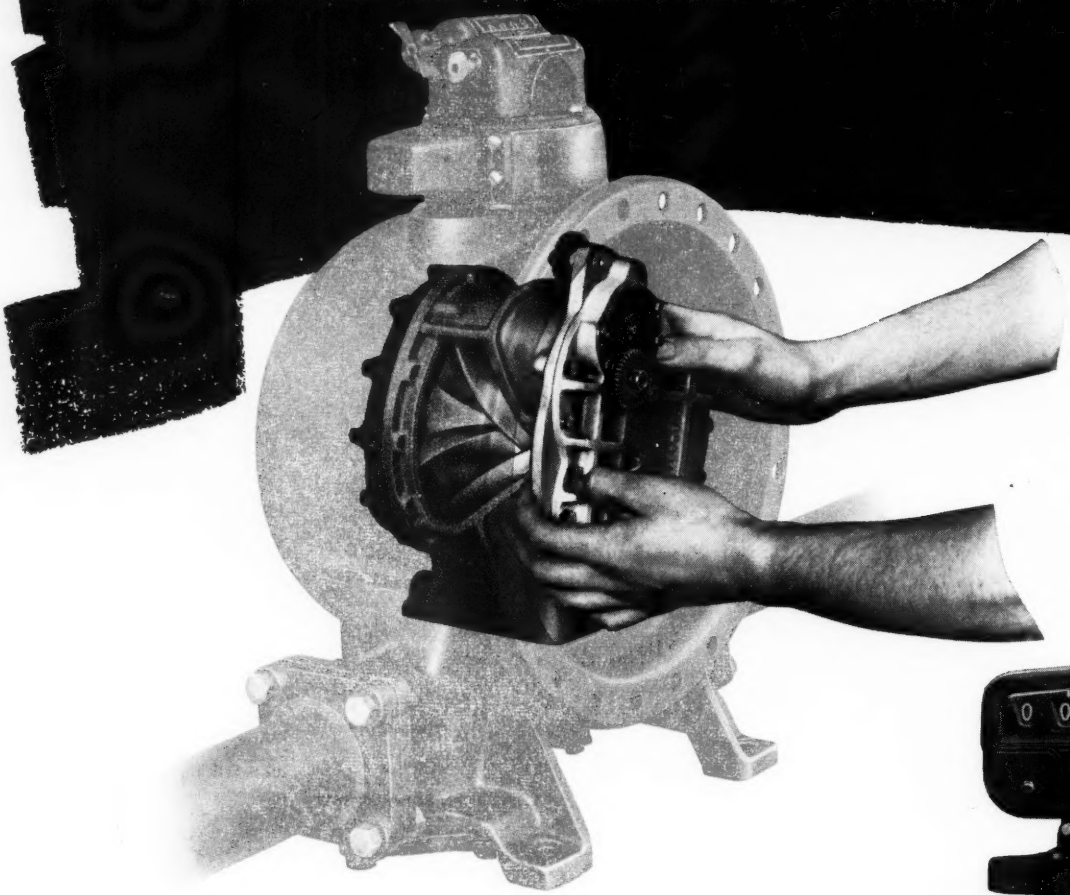
READILY REPLACEABLE MEASURING ELEMENT



—reduces down-time on loading racks and pipe lines

Though seldom required, periodic inspection and cleaning of the new Brodie BiRotor Meters is easily accomplished without removing the meter from the line or disturbing existing line connections. A complete and interchangeable measuring unit, compactly mounted within a welded All-Steel meter housing is readily accessible at all times. By simply installing a spare measuring element, loading rack and pipe-line shutdowns are reduced to a minimum. All-Steel housing avoids damage from shocks and impacts, further contributing to longer trouble-free service life. Designed for high sustained accuracy and efficiency, Brodie BiRotor Meters are *built to last*. Investigate fully, today. Write for complete details.

- ALL-STEEL HOUSING
- PRECISION DRY ADJUSTMENT
- STREAM FLOW DESIGN
- FRICTION-FREE OPERATION
- TRUE-ROTARY PERFORMANCE

ALL-STEEL **BRODIE BiRotor METERS** TRUE-ROTARY

RALPH N. BRODIE CO., INC. 61ST & LOWELL, OAKLAND 8, CALIFORNIA

Division Offices: CHRYSLER BLDG., NEW YORK CITY • 59 E. VAN BUREN, CHICAGO 5 • 2101 S. SAN PEDRO, LOS ANGELES 11, CALIFORNIA
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NOVEMBER fueloil & oil heat 1950

VOLUME 9 • NUMBER 11

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Among other things:

Another in the series on dealer management by F. Raymond Kraemer appears in this issue. This second article offers some searching insight on financial ratios as they apply to retail profit which every dealer should consider.

On page 56 is a study of the "Cost of Service with Parts" as experienced for the past two years by Sherwood Bros., Baltimore. Twenty dollars, says Tom Carson, head of Sherwood's oilheating division, can supply on contract a summer overhaul, emergency calls and all parts.

And be sure to read: about the unique warm air heating system Robert Ring describes in his story on page 66.

The "Useful Ideas" reproduced and commented upon in the article that starts on page 71 will give you an insight into some of the constructive thinking that goes on in the field. You might not agree with all the suggestions, but you'll have to admit the boys—and girls—are trying.

. . . numbers make it clear

Through habit, people grasp a situation at a glance—by numbers. Custom has made *numbers* the accepted method that measures and explains . . . quickly, accurately. It is the modern method, the method people everywhere prefer—the method they expect.

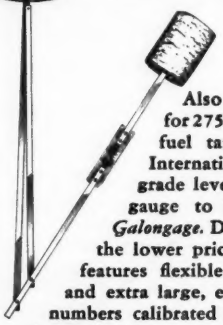
When home owners check their oil supply they want to know how many gallons they have left. Numbers tell them instantly . . . correctly. And when they want to estimate how much oil they use, numbers make it easy. Only *Galongage* tells the story the simple, easy way to which people are accustomed.

Remember, the gauge is the part of an installation your customers see most often. So do credit to a first-class installation. Be sure you follow through by supplying a first-class gauge.

Gauges by Applied Mechanics Company have a long-standing reputation for accuracy and dependability. Efficient quality construction practically eliminates unprofitable service calls and bothersome adjustments. Write today for full particulars.

GALONGAGE **The only gauge generally used that measures in gallons. Designed to meet the most exacting requirements and do credit to the finest installation. Comes fully assembled to save installation charges. Calibrated for each standard size 275-250 and 220-gallon tank with depths of 44", 42", 27" and 26", with 1½" or 2" tank openings.**

INTERNATIONAL



Also calibrated for 275-gallon size fuel tanks is the International, a high grade lever arm type gauge to team with *Galongage*. Designed for the lower priced field, it features flexible float arm and extra large, easy-to-read numbers calibrated in eighths. Built oil-tight at the factory for immediate and easy installation.

FIL-THRU For 55-Gallon Oil Drums

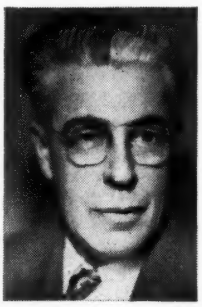
Gauge, vent and fill-pipe all in one. Installed without tools of any sort. With FIL-THRU user knows at a glance when to order and fill man can tell how much is required. Rugged, rainproof and non-corrosive. Clean and convenient for consumer and oil man.

APPLIED MECHANICS COMPANY

167 OLIVER STREET, BOSTON 10, Mass.

Names in the News

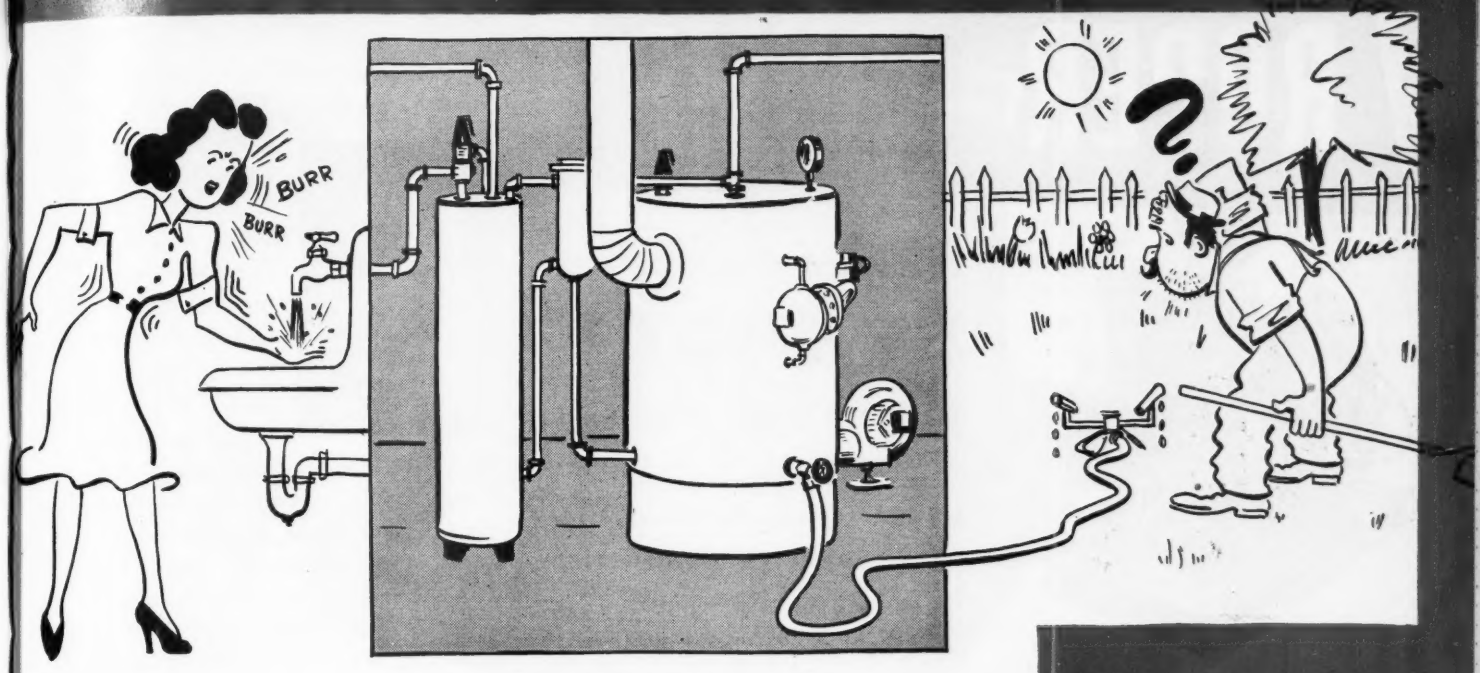
A. E. Hess has been appointed manager of the general division, York-Shipley, Inc., York, Pa. Mr. Hess, who was managing director of Oil-Heat Institute of America for five years up to September 30, 1949, has had 27 years of experience in the manufacturing and distribution of all types of oilburning equipment. During World War II he had charge of 13 offices affiliated with WPB in New England and was a member of the first Area Urgency Committee of WPB at Hartford, Conn. For the past year he has been sales manager, Lustron Corp., Columbus, Ohio.



Laverne N. Zimmerman has joined L. J. Mueller Furnace Co., Milwaukee, Wis., as district representative, covering parts of New York, Pennsylvania and Massachusetts. Associated with the heating industry for many years, Mr. Zimmerman has a rich background of experience in all phases of the business. He will represent Mueller on its entire line of heating equipment. Formerly located in Wellesley, Mass., Mr. Zimmerman has established headquarters in Kenmore, N. Y.

William Landmesser has become northern New Jersey sales representative, Delta Htg. Corp., Jackson Heights, N. Y., for its complete line of

You only THINK you've heard everything!



Just listen to this: A letter from a heating man in Florida (who asks, for obvious reasons, that his name be withheld) reads as follows:

> "A gardener in a local residence connected a garden hose with a lawn sprinkler at the end of it to [of all things] the boiler drain. Then he opened the drain valves and went his way. The boiler is a hot water heating boiler with indirect domestic water heater, so the complaint from the owner was that the hot water heater wasn't working [That's easy to believe!]. Fortunately nothing serious happened because the boiler was equipped with a McDonnell & Miller Low Water Cut-off which stopped the oil-burner when the level dropped."
>
> *Yours truly, J.C.P.*

This was one for the cartoon department, but the over-all picture isn't funny at all. It's just one more confirmation of our often repeated statement that no one on earth can foresee when or why the water will leave a boiler. It also backs up our statement that there are just about as many reasons for losing the water level in a hot water heating boiler as in a steam boiler. Lucky it was that this hot water boiler was equipped with a McDonnell Low Water Cut-off. Too many of them are not.

The McDonnell No. 63 Low Water Fuel Cut-off (opposite) has been specifically designed for these too often neglected hot water heating boilers. (Our No. 67 Cut-off used on steam boilers is not designed for the higher allowable pressures of the hot water heating boilers and our No. 150, designed for 150 lbs. maximum, is of more expensive construction than needed for low pressure hot water heating.)

Built for pressures up to 50 lbs., this is the ideal cut-off for the hot water boiler. Into it has gone the best of all we have learned in many years of "Doing One Thing Well." Ask for bulletin containing facts and installation data.

For hot water heating boilers

Dependably stops the burner whenever the boiler water falls below a safe level. All operating parts isolated from heat; heavy-duty syphon eliminates packing; switch is dependable McDonnell snap action type: A.C. ¾ hp. 115-230 V.; D.C. 10 amp. 115 V. Note typical hook-up above.

McDONNELL & MILLER Inc. • 3500 N. Spaulding Ave. • Chicago 18, Ill.

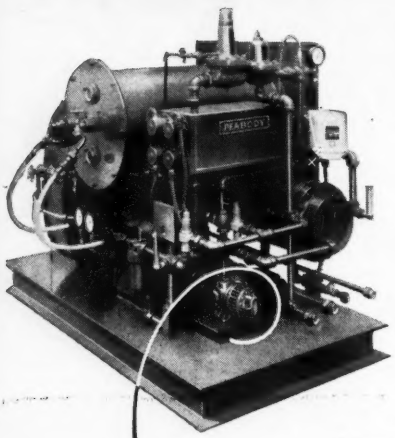
Doing One M&M SAFETY CONTROLS *Thing Well*

Your Jobber Stocks Them

McDONNELL

Boiler Water Level Controls

ROPER SERIES F PUMP



INTEGRAL PART OF THE

PEABODY

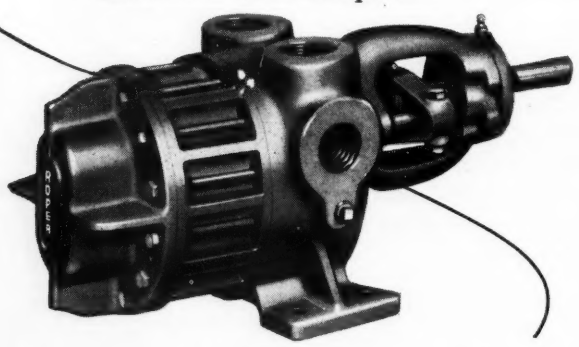
AUTOMATIC BURNER

★

Here is what a Peabody catalog says about the Roper

"Quiet, Slow Speed Operation — The pump used in the Peabody Automatic Burner operates at relatively low speeds. As a result, excessive noise and operating maintenance usually associated with high-speed pumps is entirely eliminated, as well as excessive maintenance costs from worn out parts."

Pressures to-
300 P.S.I.
Capacities-
1-300 G.P.M.



QUIET, DEPENDABLE OPERATION...4-PORT DESIGN

Bunker "C" oil or heavy fuels used in industrial burners must be supplied at the *exact pressure* and *exact viscosity* to get maximum burner efficiency. That is one of the many reasons why Peabody installs the Roper Series F Pump as original equipment on their units.

This smooth-operating, dependable pump is easily installed in this and similar applications. Saves work, time, labor costs. Four-port design makes this possible. This offers eight optional piping arrangements — 4 for CW and 4 for CCW rotation. If you require a pump in sizes 1–300 G.P.M., pressures up to 300 P.S.I. with parts and construction features that are service-proved for long-life, investigate the Roper Series F. Standard fitted and special fitted models to suit specific needs.

Send For Literature Today

GEO. D. ROPER CORP.
771 Blackhawk Park Ave.
ROCKFORD, ILLINOIS

ROPER Rotary Pumps

DEPENDABILITY SINCE 1857

oilburners, boilers, wall and floor furnaces and other heating products. Mr. Landmesser formerly was sales representative for Percoflash boilers.

W. L. Sneltjes, formerly advertising and sales promotion manager of Williams Oil-O-Matic Div., Eureka Williams Corp., now is supervisor, advertising and sales promotion for General Electric Company's Air Conditioning Dept., Bloomfield, N. J. He succeeds Fred Keswick who recently joined the advertising staff of the company's Appliance and Merchandise Dept. Mr. Sneltjes, a native of Chicago, spent five years at Rock Island Arsenal, Rock Island, Ill., prior to and during World War II. He was a technical observer at Operations Crossroads in 1946 and witnessed both A-bomb explosions at Bikini Atoll.

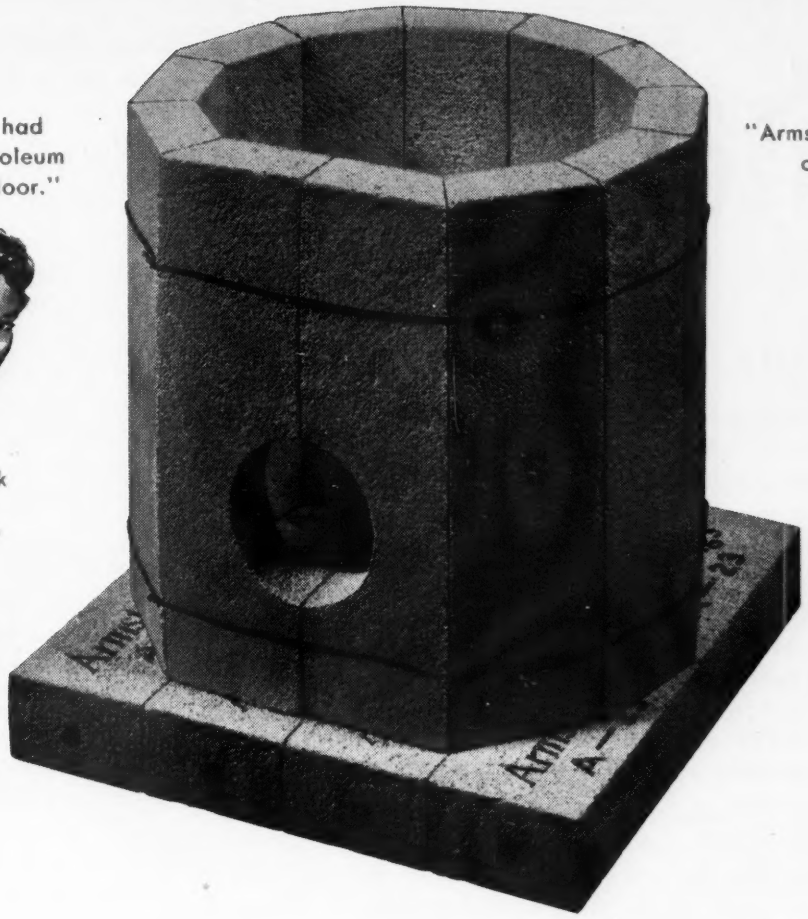
William B. Spence has been added to the sales staff of the Zanesville, Ohio branch office of the Boiler Div., Burnham Corp., Irvington, N. Y. He will cover the Cincinnati, Dayton, Columbus and Springfield area.

J. J. Hildebidle has been elected vice-president, KO-Z-AIRE, Inc., Red Oak, Ia. He has been its general manager since 1948 and prior to that was associated in production and management capacities with Colt Mfg. Co., and Johnson and Jennings.

Howard L. Spindler has been named director of public relations, American Radiator & Standard Sanitary Corp., Pittsburgh, Pa., and *Robert W. Lear* has been promoted to succeed Mr. Spindler as manager of advertising and sales promotion. Mr. Spindler joined American-Standard in 1927, has worked in its manufacturing, branch house and sales departments, was a special war work representative from 1942 to 1945, when he became manager of advertising and sales promotion. Mr. Lear, a lieutenant in the United States Navy during the war, was Mr. Spindler's assistant until his promotion.

"I've always had Armstrong's Linoleum on my kitchen floor."

"Armstrong's Temlok keeps my home more comfortable."



"Armstrong's Cushiontone cuts down noise in our office."

"We used Armstrong's Asphalt Tile on our basement floor."

A name can help you sell

A combustion chamber doesn't represent a very large part of an oil burner installation. But it can play a very important part in selling a job, providing, of course, it's made by a company that people recognize as a manufacturer of quality products. That's because people have confidence in the products of manufacturers they know and the dealer who handles them.

Most people, we believe, have confidence in the name Armstrong. For years, home owners have learned about Armstrong's Linoleum, Quaker® Rugs, Asphalt Tile, Temlok®, and Monowall® through advertising in the country's leading national magazines, on the radio, and more recently on television. Businessmen have read about many of these same products as well as Armstrong's Industrial Insulations and Cushiontone® in magazines like The Saturday Evening Post, Time, Newsweek, and Business Week.

So the next time you call on a prospect tell him about Armstrong's Combustion Chambers and see for yourself how much the Armstrong name can help you. Of course, don't forget that these chambers have important advantages that your customers will want to know about. They improve oil burner operation because with an Armstrong chamber the flame of the oil burner gets hotter in 3 minutes than it does in 30 minutes with a heavy fire brick chamber. Faster heat means shorter "burner-on" periods to maintain room warmth, and quicker response means more even heat. Fuel savings range up to 15%. Burning is cleaner with less smoke, soot, oil film, and odor.

The chamber also offers you important advantages on the job. Each one is packaged as a complete unit, ready to assemble. Factory-fabricated pieces are cut even and true. They're light in weight, yet remarkably sturdy.

For special oil burner applications, where one of the three sizes of Armstrong's chambers is not adaptable, you can select from Armstrong's complete line of six standard insulating fire brick. Armstrong's Combustion Chambers and Insulating Fire Brick are available through Armstrong distributors and oil burner wholesalers. For information, call your supplier or write to Armstrong Cork Company, 1411 Mulberry St., Lancaster, Pennsylvania.

ARMSTRONG'S COMBUSTION CHAMBERS

Made of Armstrong's Insulating Fire Brick

Editorial Leaks

Riding home from an industry meeting in a car owned and operated by our family oil supplier, we were holding forth at some length on the idea of profits first, and don't worry so much about margins. We were pointing out that when a fueloil marketer has built a strong neighborhood reputation and has served folks well he doesn't have to worry much about the minutae of exact price postings. Not that he can rob people at will, but if his margin is too narrow for profits he will have better success in adding an extra two- or three-tenths to his billings than in getting his margins raised.

You've probably guessed the answer. The oil man was glad we agreed with his own viewpoint because we had been paying more than posted prices for quite a while. We hadn't known it.

That brought to mind the evening when eleven men at our house for a social time were asked what they were paying for fueloil and not one knew exactly, including the host.

A few weeks ago margins on No. 2 heating oil were cut sharply in the Midwest by several major companies . . . not all of them. These cuts were made because the suppliers were convinced they could get the oil delivered without having to pay the old margin and without the distributors going broke. They were being realistic to their own stockholders, and they'll never be fired for that.

In such instances the trouble is that some companies can stand it and others can't. Our industry has an unusual variation in costs. As a rule the larger distributors have higher operating costs because their overhead has to pay for supervisors, where the little man has to hire only helpers and does his own masterminding.

Larger companies most frequently have strong community standing built through superior service. Why don't they prove that their product and service is worth more and charge it? A number of successful companies are doing it, here and there.

Fueloil should be sold on cost, plus accurate operating expense, plus fair profit—and not on fixed frozen postings. Sure, you'll lose an occasional customer, but with improved financial position, you'll have the vigor to more than offset your losses. Rigid margins don't fit fueloil.

❖

When Frank Porter, speaking before the Texas Mid-Continent Oil and Gas Association, took strong exception to various attempts in Washington to regulate the end use of fuels, he moved himself right into the hearts of oilheating men. Porter is the president of the American Petroleum Institute, new in the post. He's off to a flying start.

Porter's objections were principally levelled at the coal industry and its growing list of supporters in Government jobs. There have been several projects in recent months to choke back the expansion of fueloil and gas heating, to force consumers to stay with coal. One cabinet member within the past month said in private conversation, "We've just got to do something for coal." Shades of John Lewis and 400,000 votes.

In his old fashioned way Porter believes that consumers have enough sense to decide what they want for themselves, be it silk or nylon, beef or pork, oil or coal.

Now let's carry the thinking a step farther. Some Government men have said that we should not use oil for heating. They feel that it is an inferior use for a natural resource that cannot be replaced, once exhausted.

Within the present generation a number of men within the oil industry have asked questions with the same implication. They have been sincere men, with no axe to grind but surprised at the very fast growth of oilheating and wondering where we're headed.

With distillate heating oil volume growing more than twice as fast as gasoline, year after year, it's only a question of a few years until they will be equal in demands. Engineers designing refineries for the future can't escape the implications.

But let's not allow ourselves to drift into the thinking of those few Government who hint that there's something immoral about burning oil for heat. It's the people's choice, even more than gas as the years have shown.

That point about inferior or superior uses for petroleum gave us moments of perplexity when we first heard it years ago, but no more. The whole point was beautifully cleared up by some real scientists in the industry.

W. M. Holaday and some of his associates at the Socony-Vacuum laboratory prepared a very learned paper for the last meeting of A.P.I. in Chicago. It was a study of world energy sources . . . the kind of a paper that you wouldn't read at one sitting, but you'd be sure to keep it.

The other day, running across it in a reference file and opening it from the back, like you would the *Saturday Evening Post* to read the cartoons first, we found the amazing table. It was a tabulation of the efficiencies in utilizing the various energy sources.

It was a shock to learn that 94% of all the gasoline we burn in our cars is wasted . . . the average automobile or truck uses only 6% of the Btu of energy in the fuel.

A diesel truck is better . . . 9% efficient. An aeroplane utilizes 18%, jet planes 12%. A diesel-electric locomotive is phenomenal. It wastes only 74%, makes use of 26%.

The average of their many field tests of oilburners showed a net efficiency of 64%, good and bad. In the laboratory they found as high as 88% efficiency in the best oilfired units.

So where is the inferior use of fuels? If the best automobile were as efficient as the common garden oilburner, we would get 200 miles to the gallon of gasoline. If it were as effective as the best oilburner we'd get 300 miles.

With that kind of understanding, the future of oilheating looks even better. If people are willing to pay for 94% waste before they will return to the horse there is little danger of their reviving an interest in coal.

Thank you, Mr. Porter, for raising the point, and Mr. Holaday for settling it. People should have what they want.

A PROVEN WAY TO OFFSET RISING COSTS

Ten years ago, one of our customers who had equipped all his customers' basement tanks with VENTALARM Signal said this: *"The thing that is important to us is that our operating costs dropped more the first year than the VENTALARM Signals cost us."*

Analyze the extent to which some of those "operating costs" have *risen* during the past ten years.

As against 10 years ago, the initial cost of trucks is up 200%.

As against 10 years ago, the cost of truck maintenance is up 125%.

As against 10 years ago, chauffeurs' wages are up 100%.

Unquestionably, today's savings made possible by the use of VENTALARM Signal are far, far greater than they were 10 years ago. And it is nice to know that during that time the price of VENTALARM Signal itself has increased only 11%! Therefore, it is TWICE as logical and profitable to invest in VENTALARM Signals today as it was 10 years ago! And VENTALARM Signal installations can be treated as an expense item rather than a capital expenditure.

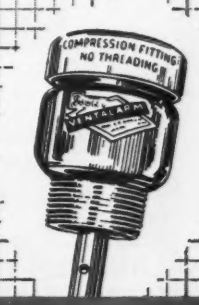
NOW is the time to give your most serious consideration to the equipping of all basement fuel oil tanks with VENTALARM Signal. It is a basic and proven way by which your company can combat and offset rising operating costs. It is a way of oil delivery that allows you to go all-out for that fundamental rule of delivery efficiency — MAXIMUM GALLONS DELIVERED PER MILE OF TRAVEL WITH MINIMUM WASTE OF TRUCK AND DRIVER TIME.

Within the past 3 months, a nationally-known fuel oil company executive wrote this to us: *"With operating costs doubled in the past ten years, it is difficult to see how we could make a satisfactory profit using old-fashioned delivery methods. VENTALARM Signals have eliminated 'not at home' stops, reduced spills to a minimum, simplified degree day work, and made it possible for us to average 24% more gallons delivered per truck per hour on small tank drops."*

DECIDE NOW to equip all old and new accounts with VENTALARM Signal. It is your *proven way* to offset rising costs.

Models for new and old tanks at your regular Supply House. Also available in "2 in 1" Signal-Gauge Combination.

Write for literature and prices **SCULLY SIGNAL COMPANY**
76 First St., Cambridge 41, Mass.



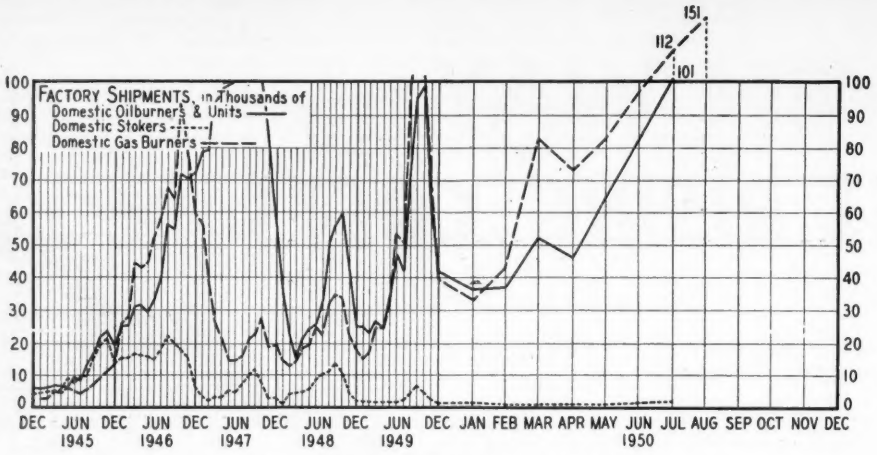
MODEL LC FOR OLD TANKS

1. Saves driver and truck time.
2. Eliminates run-outs.
3. Eliminates repeat calls.
4. Assures properly filled tanks.
5. Makes oil delivery truly automatic.
6. Provides better means of meeting gas competition.

OVER 1,000,000 AUTOMOTIVE GAS TANKS WILL BE STANDARD EQUIPPED WITH VENTALARM SIGNAL THIS YEAR.

VENTALARM®
WHISTLING TANK FILL SIGNAL

Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario

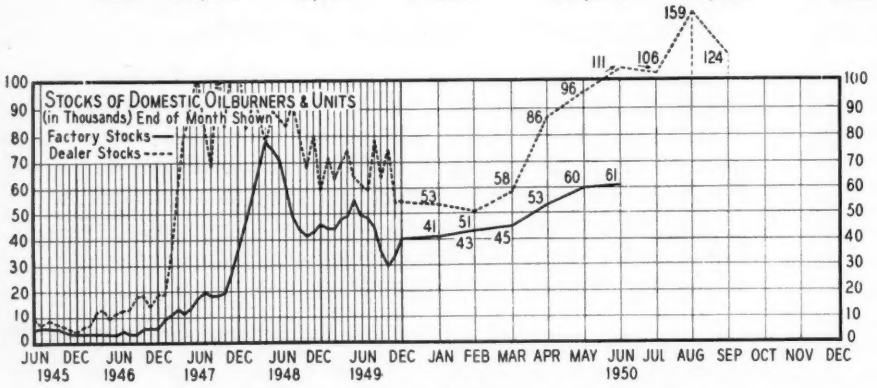

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
Domestic Gas Burners
151
112
101
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1945 1946 1947 1948 1949 1950

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 152 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	AUGUST			EIGHT MONTHS		
	1950	*1949*	*Percent Change*	*1950*	*1949*	*Percent Change*
Conversion	105.845	55,371	+ 91.1	409.667	221.789	+ 84.7
Boiler units	13.568	6,464	+109.9	55.486	27,614	+100.9
Furnace units	22.700	13,397	+ 69.4	97.706	49.856	+ 96.0
All Domestic	142.113	75.232	+ 88.9	562 859	299.259	+ 88.1
Commercial	3.938	2,783	+ 41.5	19.891	15,335	+ 29.7
Total	146,051	78,015	+ 87.2	582,750	314,594	+ 85.2



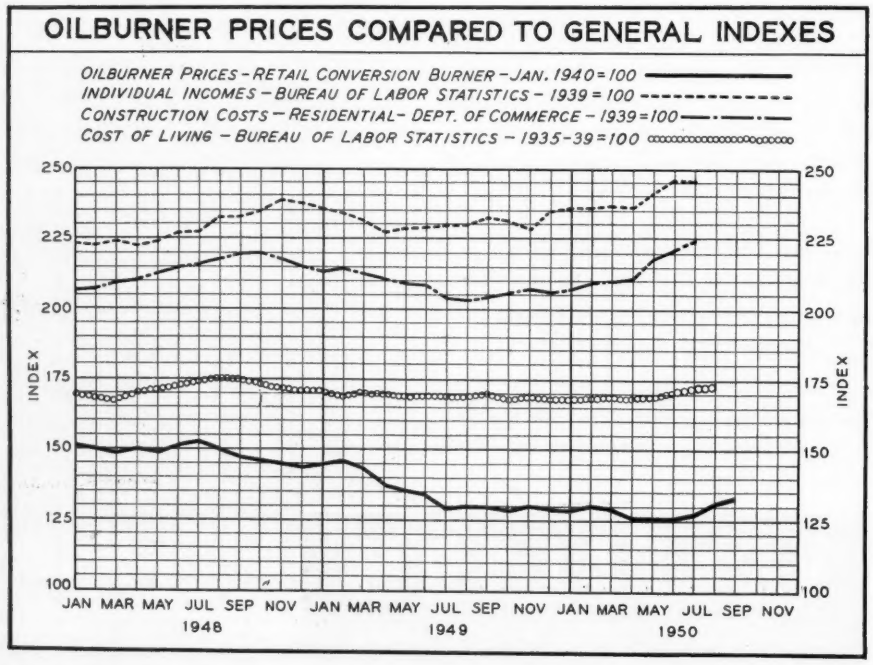
September Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
September Aver.	$312	$651	$578
August Aver.	307	651	578

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL		
September	127.8	Six months ago	120.9	September	133.3	Six months ago	128.9
August	128.8	Year ago	130.9	August	130.8	Year ago	130.2

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTRUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
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1948 1949 1950

Oilheating Trends

ESTIMATED INSTALLATIONS of domestic oilburner and units during September were 102,817, a gain of 15% over the 89,775 installed in the same month last year. Total for the nine months of the year is estimated at 566,992, compared with 405,816, a rise of 40%. The fact that the September total this year was slightly below August was unusual and apparently has been caused by consumers wanting to get burners in before any possible restrictions.

September installations were divided: New homes 21,965; Replacements of old oilburners 11,310; Conversions from other fuels 69,542. For the nine months the division was New homes 132,589, Replacements of old oilburners 61,750, Conversions from other fuels 372,653.

BURNER STOCKS: Stocks of domestic oilburner and units in dealer hands on October 1 were approximately 124,291. This shows a sharp drop which was to be expected from the all time high point of 159,393 a month earlier.

TANK STOCKS: Tank stocks in the hands of oilheating dealers on October 1 are estimated at 90,923, about a ten percent drop from the previous month. However, it is obvious that the tank situation is slowly improving because the October tank stocks were equivalent to 73% of dealers' burner stocks on the same date while a month earlier tank stocks were only 63% of stocks.

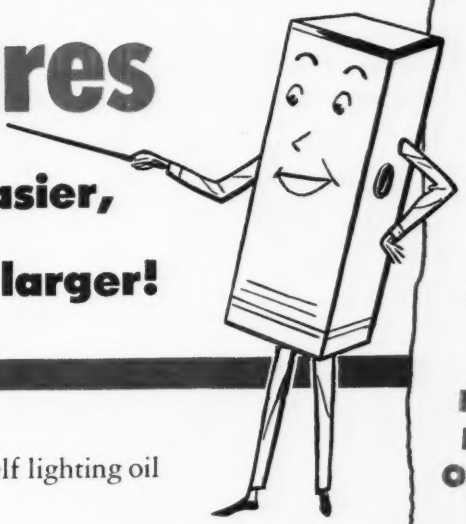
The tanks in stock on October 1 were divided in the following sizes: 220-275 gallon 80,042; the 550-675 gallon sizes 7,514; the 1,000 and larger sizes 3,267.

The average price for tanks throughout the country was up another $3 from the previous month reaching $44 on October 1 for the 275 gallon size. By sections of the country the October 1 average price was: New England $42; Mid-Atlantic states $45; Midwest $46; Pacific Northwest $39. One Atlantic City dealer sent in an original quotation from a steel company in western Pennsylvania offering 12 gauge 275 gallon tanks in lots of 25 for $78 each. This is from a small steel company that has not been regularly engaged in this work.

MATERIAL SHORTAGES: Quite a number of dealers were unable to complete

only H. C. Little has these 5 features

that make selling easier, profits larger!



Quiet as a Whisper —The *only* self lighting oil furnaces that are *really* quiet.

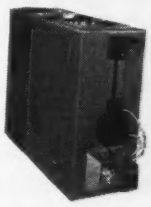
Clean as a Choir Boy —The patented H. C. Little burner converts ordinary furnace oil into an invisible soot-free gas that burns with an exceptionally clean flame.

Automatically Self Lighting —Exclusive, patented H. C. Little low voltage electric ignition. Does not interfere with radio or television.

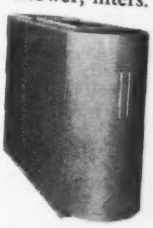
Non-mechanical Oil Burner —Operates on exclusive principle known as Progressive Low Temperature Carburetion. No moving parts to wear out or require service. No nozzles or orifices to clog.

Economical for two reasons: 1. Burns low cost furnace oil at high efficiency. 2. Heat output can be regulated during installation to conform exactly to the heat requirements of the house, with extremely satisfactory operation and low fuel cost as the net results.

WINTER AIR CONDITIONERS

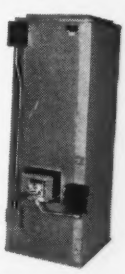


For Small Homes—
Model A-AC-2. 84,000
BTU output.
Blower, filters.

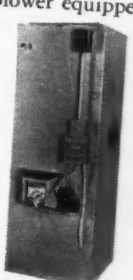


For Larger Homes—
Model B-AC. 125,000
BTU output.
Blower, filters.

FIRST FLOOR FORCED AIR OIL FURNACES

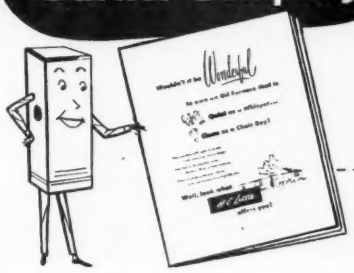


For Small Homes—
Model DU 44 C.I.B.L.
80,600 BTU output.
Blower equipped.



For Larger Homes—
Model DU 46 C.I.B.L.
120,000 BTU output.
Blower equipped.

H. C. Little Burner Company *San Rafael, California*



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fueloil & oil heat

installations scheduled for September because they were not able to pull together all of the necessary materials. Asked what shortages were actually preventing completion of jobs, 22% of the reporting group gave first place to pipe and fittings, second on the list was boilers with 9%, then sheet metal 8%, copper tubing 8%, BX cable 7%, convectors 4%, furnaces 3%, and baseboard radiation 2%. Also mentioned in smaller numbers were blowers, radiators, cement, circulators, insulating fire brick, tankless coils, oil filters, and M-H controls. The important thing to note about this list is that in each instance the shortage of the product listed was preventing the completion of actual jobs. This was not simply an inventory shortage.

BURNER SALES OUTLOOK: Dealers on the whole are a little less optimistic looking into the balance of the year. They now estimate that for the full year 1950 their installations will number 34% more than in the full year 1949. Three months ago the same group had estimated that their sales for this full year would be up 38%. Actually for the first nine months the industry has been up 40%.

FUELOIL SUPPLY ATTITUDE: Fueloil distributors throughout the country are keeping their own bulk plant stocks high. Among the reporting group 58% say that they are keeping their own tanks as full as possible consistent with the size deliveries that they receive. Another 40% are holding bulk stocks at about the same levels as they normally would regardless of the market outlook. The remaining 2% are keeping minimum stocks.

One reason why all distributors are not maximizing stocks is the fact that 92% of those reporting say that their regular suppliers will probably be able to take care of their full needs this winter. An additional 5% say that, while their regular suppliers cannot handle them, they have already made satisfactory arrangements for additional product in the open market. This leaves only 3% of the reporting group that are still worried about their winter needs. Among those who went outside of their regular suppliers to get additional oil for this winter two-fifths are paying a premium price above the posted market; three-fifths are not.

Asked about their customer storage attitude, nine-tenths of the reporting fueloil men say they are keeping the home tanks filled as high as would be practical considering automatic delivery methods. The other 10% are making no special effort in this direction.

Fueloil stocks at primary terminals, refineries, and in transit on September 30 for the area East of the Rockies

(*Please turn to page* 142)

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
September		9 MONTHS			September		9 MONTHS	
1950	1949	1950	1949		1950	1949	1950	1949
190	107	793	461	Albany, N. Y.	..	..	..	..
327	548	3729	3909	Baltimore, Md.	192	744	1363	2169
..	..	..	..	Binghamton, N. Y.	16	8	116	83
..	..	..	..	Bloomfield, N. J.	7	15	170	64
..	673	..	3351	Boston, Mass.	19	25	244	260
195	202	876	711	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	55	60	549	318
4	..	19	..	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	149	121	1407	899
103	347	1018	5528	Detroit, Mich.	462	1397	10271	9017
70	58	537	361	Elizabeth, N. J.	3	13	48	40
42	49	394	237	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	40	27	322	154
..	..	..	..	Hackensack, N. J.	10	11	170	48
84	79	1174	724	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson, County, N. J.	..	..	..	..
61	66	477	249	Irvington, N. J.	1	3	43	19
..	..	..	..	Lynn, Mass.	8	13	145	152
10	27	441	218	Meriden, Conn.	..	..	..	..
284	455	2270	2607	Milwaukee, Wisc.	290	119	2819	1479
153	145	749	696	Minneapolis, Minn.	184	242	1730	1290
54	41	279	189	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	2	..	26	..
51	55	394	301	Mt. Vernon, N. Y.	..	..	..	..
281	323	1877	1279	Newark, N. J.	..	..	..	..
48	24	765	611	New Bedford, Mass.	..	..	..	..
67	151	477	451	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
52	39	269	209	New Rochelle, N. Y.	8	3	146	37
3285	3044	24824	18362	New York City (total)	..	..	..	..
3146	2379	19998	14186	Brooklyn-Queens	..	..	..	..
139	665	4826	4176	Manhattan, Bronx, Rchd	..	..	..	..
251	75	1078	979	Norfolk, Va.	76	62	1042	524
..	..	..	..	Oakland, Calif.	..	..	..	..
230	111	..	1291	Omaha, Neb.	99	84	1293	493
51	33	229	146	Orange, N. J.	2	3	16	4
38	38	310	235	Passaic, N. J.	..	..	..	..
117	138	865	603	Paterson, N. J.	13	15	170	93
1608	1219	9759	6454	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	14	35	268	108
80	51	430	252	Portland, Me.	17	9	200	103
696	660	4553	5004	Portland, Ore.	173	148	2069	1528
34	41	156	161	Poughkeepsie, N. Y.	..	..	..	..
116	84	537	441	Providence, R. I.	27	17	259	133
..	..	..	..	Reading, Pa.	7	16	66	51
164	73	805	592	Richmond, Va.	51	50	605	551
81	..	890	..	Roanoke, Va.	..	..	..	..
426	442	2726	1724	Rochester, N. Y.	..	..	..	..
27	25	271	187	Rockville Center, N. Y.	32	11	164	81
54	27	324	200	Salem, Mass.	2	3	70	80
24	35	262	596	St. Louis, Mo.	90	90	842	419
..	360	..	1466	St. Paul, Minn.	122	96	1368	552
66	36	524	367	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	216	158	2214	1238
..	..	..	..	Springfield, Mass.	51	41	588	361
..	64	..	375	Stamford, Conn.	..	..	..	..
14	128	109	507	Syracuse, N. Y.	35	25	497	261
..	..	..	..	Trenton, N. J.	4	3	53	63
..	..	..	..	Utica, N. Y.	20	8	144	64
342	190	1353	902	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	36	40	348	135
52	58	271	190	White Plains, N. Y.	16	4	157	74
143	147	733	755	Wilmington, Del.	17	15	217	84
..	227	..	1126	Worcester, Mass.	..	..	..	..
122	95	683	418	Yonkers, N. Y.	..	..	..	..
10012	9466	67321	57816	*Totals*	2564	3734	32193	23029
+5.8		+16.4		*Percent Change*	—31.3		+39.8	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

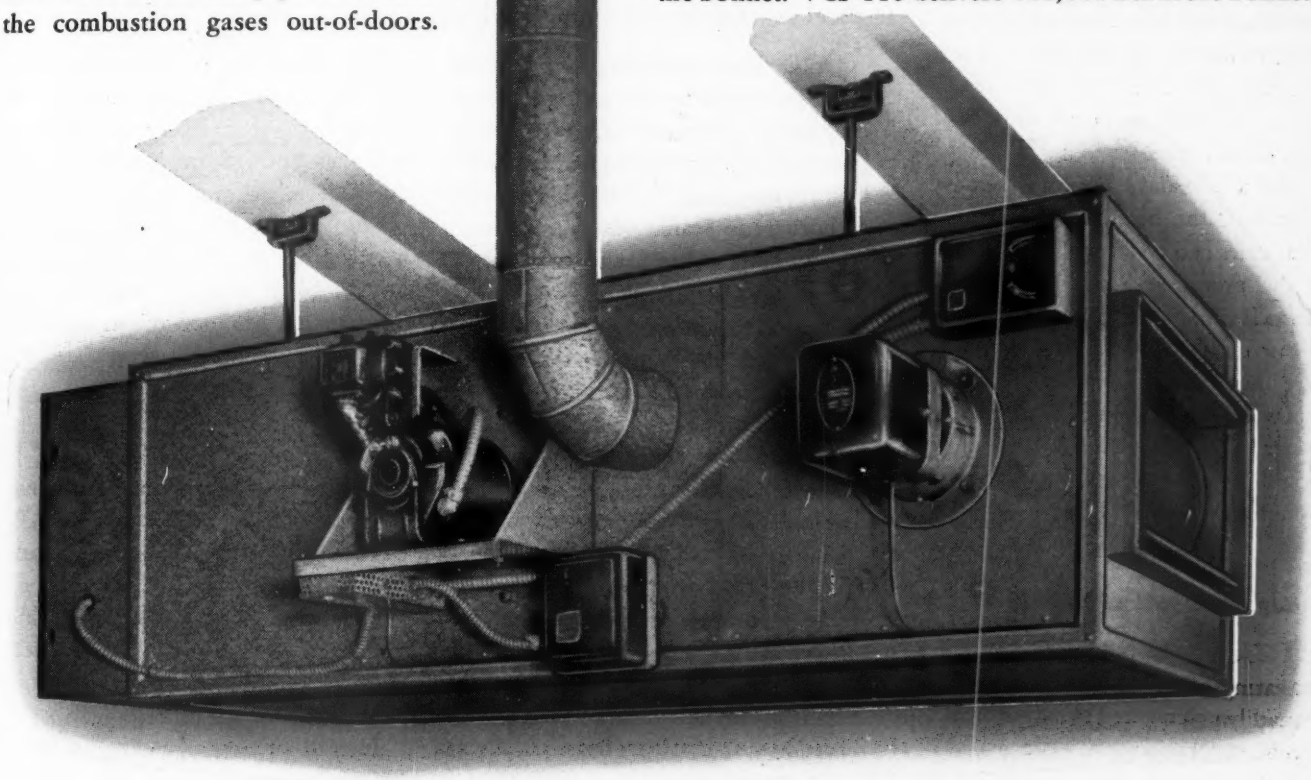
Uses an Exhaust Pipe

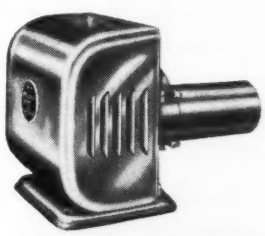
Yes, the Master Kraft Model VCF Warm Air Conditioner uses a new method of combustion control. In this heating unit, the draft is *induced by the unit itself.* This makes it possible to operate the unit without the benefit of a chimney. Of course, it must have an exhaust pipe to conduct the combustion gases out-of-doors.

. . . . Instead of a Chimney

The Master Kraft Model VCF, being unlimited in its uses as a Warm Air Conditioner, is a fast seller, and an excellent profit-maker for the dealer who handles it. Stand it up, hang it up, or lay it down — just install it in any convenient space. No need to worry about where to locate it, because it needs no chimney — it makes its own draft.

Available in two sizes. VCF-75 delivers 75,000 Btu at the bonnet. VCF-110 delivers 110,000 Btu at the bonnet.





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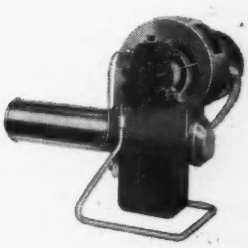

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Government Influences on Fuels

by

Milburn Petty

WASHINGTON — Government and industry spokesmen believe that the heating oil supply situation is in good shape to meet this winter's demands.

"Information coming in indicates," says Hugh Stewart, director of the Oil and Gas Division, Interior Department, "that current production is mounting steadily, primary storage is equal to last year at this time but is increasing, and that the quality of fuel oils in secondary storage is even better than I had hoped."

Just a few days prior to Stewart's statement, the heads of 15 major oil companies had given similar assurances at the proration hearings before the Texas Railroad Commission.

Purpose of the hearings was to make sure there will be enough heating oil this winter because, as Texas Commissioner E. O. Thompson said, "We would not want to have to explain to Congress why there was a shortage with Texas cutting back allowables."

Company Heads promise plenty Oil

The company heads said stocks of heating oil were sufficient or could be readily supplemented by adjustment of refinery operations.

R. G. Dunlop, Sun Oil's president, expressed the view of many when he said, "The industry is in the spotlight and must provide supplies the public may reasonably expect."

There was little mention of residual fuel oil—perhaps because many of these companies plan to import large amounts from foreign sources. It was pointed out that California's surplus has been cleaned up.

Warned to expect 20% Increase

Refiners have been told to expect a 20% increase in heating oil demand, with a normal winter, and perhaps 4% greater demand if the weather is extremely cold.

Such was the prediction in the report of the fuels subcommittee headed by Senator Benton, Connecticut.

Benton's report said the recent increase in East Coast distillate fuel oil prices, accompanied by a price cut on gasoline at the Gulf, would "encourage refineries to increase their yield of heating oil."

On residual, Benton said present indications are that New England supplies will be adequate to meet essential requirements. Imports are expected to supply 22% of demand.

Steel for Oil Burners and Tanks

OGD Director Stewart, who has been pinch-hitting as acting deputy petroleum administrator until Bruce Brown (Pan Am-Southern) takes over believes that steel should be allotted for oil burners and tanks—but no machinery has been set up for this yet.

It seems likely that the new Petroleum Administration for Defense (PAD) in Interior Department will act as the claimant agency for steel needed to make consumer tanks. Oil burners are likely to come under Commerce Department's new National Production Authority (NPA).

An agreement is being worked out now under which NPA will authorize PAD to issue priorities for steel and other materials for equipment needed by the industries under PAD's jurisdiction in the new defense production setup.

PAD to be patterned after PAW

PAD has submitted a budget calling for $500,000 to carry on until the end of 1950, providing for a staff of about 275. PAD will have divisions for production, refining, supply and distribution, natural gas, etc. In fact, PAD will be virtually a carbon copy of PAW of World War II, except that PAD's divisions will have only skeletonized staffs, expandable as needed.

So far, PAD has been busy on stepping up aviation gasoline production but will handle manpower, materials, transportation, supply and other problems as they arise.

Secretary Chapman has picked Bruce Brown to head PAD with the title of deputy administrator. Brown developed PAW's aviation gasoline program, returning to Indiana Standard after the war. He was assigned to head Pan Am-Southern, a new integrated subsidiary headquartered at New Orleans. Chapman had been seeking Brown for the job, even before he was "nominated" by the National Petroleum Council.

Gas wants 'Divorce' from Oil

One of the first problems confronting the newly-established petroleum administration was a demand that gas be handled separately from oil. This came from a group representing the American Gas Association.

The argument by AGA was that gas has nothing in common with the non-utility oil industry except that both gas and oil are sometimes produced from the same well.

Also, the gas business has outgrown its status of an offshoot of the oil industry. Since 1940, it was said, gas construction has totaled over four billion dollars and now serves about a hundred million people.

Bigger Voice for Gas Proposed

Replying, Acting Deputy Administrator Stewart, pointed out that PAW had successfully handled both gas and oil in the last war, that gas and oil production are intertwined and that, while gas and fuel oil are two distinct fuels, there are many cases where one can be substituted for the other.

Instead of a separate organization for gas, known as the Gas Administration for Defense (GAD), as proposed by the AGA group, Stewart proposed that there be an assistant deputy administrator for gas and that the NPC be enlarged to include more members from the gas industry.

Fuels policy hearings start Soon

Chairman O'Mahoney of the Senate Interior Committee plans to start hearings late in November in the investigation which is to form the basis of the committee's recommendations for a national policy on fuels.

Overall, the aim is to develop data on demands, reserves and best utilization of all fuels. First step will be a round-table discussion, with representatives of management and labor in each fuel industry participating.

Profit Objectives for the Dealer

Four financial Ratios applying to retail Profit which should be understood

by

F. Raymond Kraemer*

THE FIRST ARTICLE in this series on financial ratios published in FUEL-OIL & OIL HEAT September issue pointed up the important ratios of current assets to current debts to which the several segments of the fueloil and/or oilheating equipment distributors might project their operations. It is well to briefly repeat these ratios as it is essential to have them in mind while proceeding in discussion of profits as we shall at this time.

Remember that all financial ratios discussed in these writings represent end of calendar year (December 31st) figures, as they would vary at other times of the year—

Ratios current assets to current debts:

1. Distributor selling fueloil, oilheating equipment, some gasoline and petroleum products—2.5 to 1.
2. Distributor selling oilheating equipment alone—4 to 1.
3. Distributor selling fueloil, some gasoline and other petroleum products, without heating equipment—1.5 to 1.

It must be understood that these ratios are objective standards. Ratios above these make for increased latitude of financial operations. Ratios below these tend to create day-to-day financial problems which detract from overall business operation.

In the application of financial analysis to any business it is never possible to arrive at a conclusion as to which of the 15 basic ratios mentioned in previous article are most important to the business under consideration. Only a thorough study of all phases of a particular business leads to the all important decision of establishing a certain group of financial ratio standards toward which management must direct its efforts. This is particularly true of small and medium sized businesses in which category fueloil and oilheating distributors are for the most part.

In larger businesses where specialized financial executives are employed, or smaller businesses where outside financial analysts are engaged, it is possible to develop objective standards covering all 15 basic financial ratios and many supplementary ratios to forecast the expected results in every phase of operation.

Experience has proven that the distributor of fueloil and oilheating equipment can, after adequate and understanding analysis, establish say 5 or 6 primary financial ratio standards, which other ratios would follow, as objectives and set up policies, management programs, financing, buying, selling and practically all phases of a business operation to effect coordination in such a manner as to arrive at these objectives, or exceed them.

The following has been mentioned before, but justifies repetition—although establishing financial standards is the ultimate result sought for in the operation of all business, we find that small businessmen do not give this phase of their business the attention it deserves, too often true in fueloil and heating equipment distribution.

Absence of this understanding is revealed in the fact that while financial ratio standards are published for a great many trades and industries, no such figures are available for petroleum distribution and experience proves that this is due to lack of appreciation of the value of this end-point information and unexplainable lack of interest on the part of petroleum distributors in supplying the data essential to determining objective financial standards for this segment of the petroleum industry.

An interesting observation along these lines would be that most of the principals in fueloil and oilheating distribution have come up either through sales or operating experience and it is a rare thing to find the principal of a fueloil or oilheating business whose background of experience has been primarily along financial lines.

Consequently, we find it is very engaging to the fueloil or oilheating equipment distributor to discuss the matter of volume of sales or operations as such, but it is rather difficult to develop his enthusiasm in an overall

F. Raymond Kraemer

*Financial Consultant, Mineola, N. Y. Mr. Kraemer in recent years has been retained by some of the larger fueloil and oilheating firms in the New York area, so is well qualified to apply his talents to writing directly to our industry.

He is a member of the National Association of Credit Men, New York Credit & Financial Management Association, a charter member of the American Petroleum Credit Association, secretary and treasurer of the Eastern Petroleum Credit Managers and a past president of the New York Petroleum Group of Credit Managers.

This is the second in a series of articles Mr. Kraemer is preparing on the general subject of financial and business management for the fueloil and oilheating equipment dealer.

objective financial program. He will cope with his financial problems as they come upon him, of course, but ordinarily will not undertake as long a financial program as he will a sales or operating plan.

A Look at profit Objectives

With these thoughts in mind and with the general idea of encouraging more financial planning by fueloil and oilheating distributors, let us look into the profit objectives toward which attention should be directed.

There are four principal basic financial ratios applying to profits:

1. Percentage Gross Operating Profit on Net Sales.
2. Percentage Net Profit on Net Sales.
3. Percentage Net Profit on Tangible Net Worth.
4. Percentage Net Profit on Net Working Capital.

While net profit as the final objective of all business both large and small is, of course, of great importance, the financial analyst does, and the businessman himself should, appreciate that the ratio showing percentage gross operating profit to net sales is a much better reflection—particularly in small and medium size business—of the actual profit possibilities of the business.

The gross operating profit of a business is that profit which is made before officers or principals salaries or withdrawals and before income tax reserves, after which any profit remaining is net profit.

It would be unrealistic to assume that the final net profit left in a business would not be influenced by taxes and that likewise officers' salaries or principals' withdrawals would not be likewise influenced. Consequently, we might very well find a business which does not apparently enjoy a satisfactory net profit but does make satisfactory earnings for the principals as well as pay its share of taxes. Obviously, the percentage gross operating profit on net sales really reflects the earning possibilities of a business.

At this point it might be well to digress for the purpose of indicating that in any scientific financial analyses it is necessary to deal in dollar and percentage figures. It is particularly important to emphasize this in relation to petroleum distribution, as over the years continued practice has been to attempt to treat these financial factors in terms of gallonage, margins per gallon, cost per gallon and profit per gallon. While it is essential in the compilation of certain statistics to use gallons, it is impracticable to do so in the true terms of financial analysis.

As an example, your banker just isn't interested in gallons and margins. Hs is concerned primarily with your dollar sales and what percentage of profit in dollars you can make. Also, you can't meet your payroll with gallons nor can you pay your bills or taxes with gallons. It's dollars you need and consequently your financial program must necessarily be resolved in dollars and percentages.

Standards for fueloil Dealers

Having recognized the important value of percentage gross operating profit on net sales to determining the operating possibilities of a business, the question naturally arises as to what should be objective standards for this ratio in the several segments of fueloil and oilheating equipment distribution. Here again we have to deal with variables simply because there has not been enough general data accumulated regarding petroleum and/or oilheating distribution to be scientifically specific.

However, drawing on our experience and information which we have had available to us over the years, we find it practicable to apply the following objectives in this financial ratio to petroleum distribution.

Again, we will first consider the distributor who handles fueloil and oilheating equipment, some gasoline and other pertoleum products. Should this distributor combine all operations in his financial picture, and should his sales of oilheating equipment approximate 43% of total sales indicated in the fueloil and oilheating statistics for 1949, the percentage gross operating profit on net sales for this distributor should be as close as possible to 12%. Any amount below 12% would be inadequate and financial problems would be in proportion to the degree to which it fell below this point and any amount above the 12% would indicate the greater efficiency of over-all operations and management.

The distributor of oilheating equipment alone, one who does not handle fueloil, gasoline or other petroleum products, should seek a 15% gross operating profit to net sales. Here again the degree to which the equipment distributor is realizing sufficiently from his operations is reflected in this figure. Should the percentage be lower than 15% he will be confronted with financial problems in ratio to the lesser percentage. Conversely, any increase above the 15% would indicate better than average operation with an easing in financial problems conducive to even more efficient over-all functions.

The third type of distributor, who handles fueloil, some gasoline and other petroleum products without heating equipment should look for a standard in the percentage gross operating profit to net sales of 10%. Anything below this 10% amount will not make for the freedom of financial activity which should be enjoyed for best possible operating results and anything above this percentage will make for better over-all financial planning.

Profit Calculations

Reducing these observations to calculations, we find the following:

Percentage gross operating profit on net sales:

1. Distributor selling fueloil, oilheating equipment, some gasoline and other petroleum products—

Net sales — all petroleum products	$300,000
Net sales—heating equipment	120,000
Total	$420,000
12% gross operating profit	$ 50,000

2. Distributor selling oilheating equipment alone—

Net sales	$200,000
15% gross operating profit	$ 30,000

3. Distributor selling fueloil, some gasoline and other petroleum products—without heating equipment—

Net sales	$300,000
10% gross operating profit	$ 30,000

Some may argue that these profits are too high, some, too low. Keep in mind that these are objective standards, resulting from long experience

(*Please turn to page* 142)

Bulk Plan on the Main Line

Skelton's expanding Business prompted Move to center of Market

PHILADELPHIA'S MAIN LINE consists of an area extending approximately twenty miles west from Philadelphia, encompassing a pleasant and restful deluxe suburban area. J. J Skelton & Son, Inc. has been located here for all of its twenty-eight years, has watched the area grow and has grown with it.

Most drastic of the progressive steps this company has taken probably was the move it made a year ago from Cynwyd to Bryn Mawr, Pa. The business started in Cynwyd in 1922 and drew its customers from a three or four mile area that surrounded the town. More recently, though, its activity expanded to cover almost the entire Main Line area, and with Cynwyd on the fringe, the move to Bryn Mawr was decided upon to secure a location almost in the center of the territory.

A site was selected on the busy Lancaster Pike—once the old Lincoln Highway, now U. S. Route 30 and presently a main traffic artery west from Philadelphia—in the town famous for its Bryn Mawr college, plush girls' school founded in 1885. The showroom faces the Pike, with office space to the rear of the two-story building. To the left is located a large supermarket, and the Bryn Mawr railroad station is just around the corner on the other side.

The frontage, including the building and the driveway, is 78 ft. wide, with the property extending 300 ft. back from the highway, and jutting in a dog-leg behind the supermarket and its parking space. This area is 200 ft. wide and provides space for Skelton's oil storage tanks, garage and ample room for maneuverability in loading.

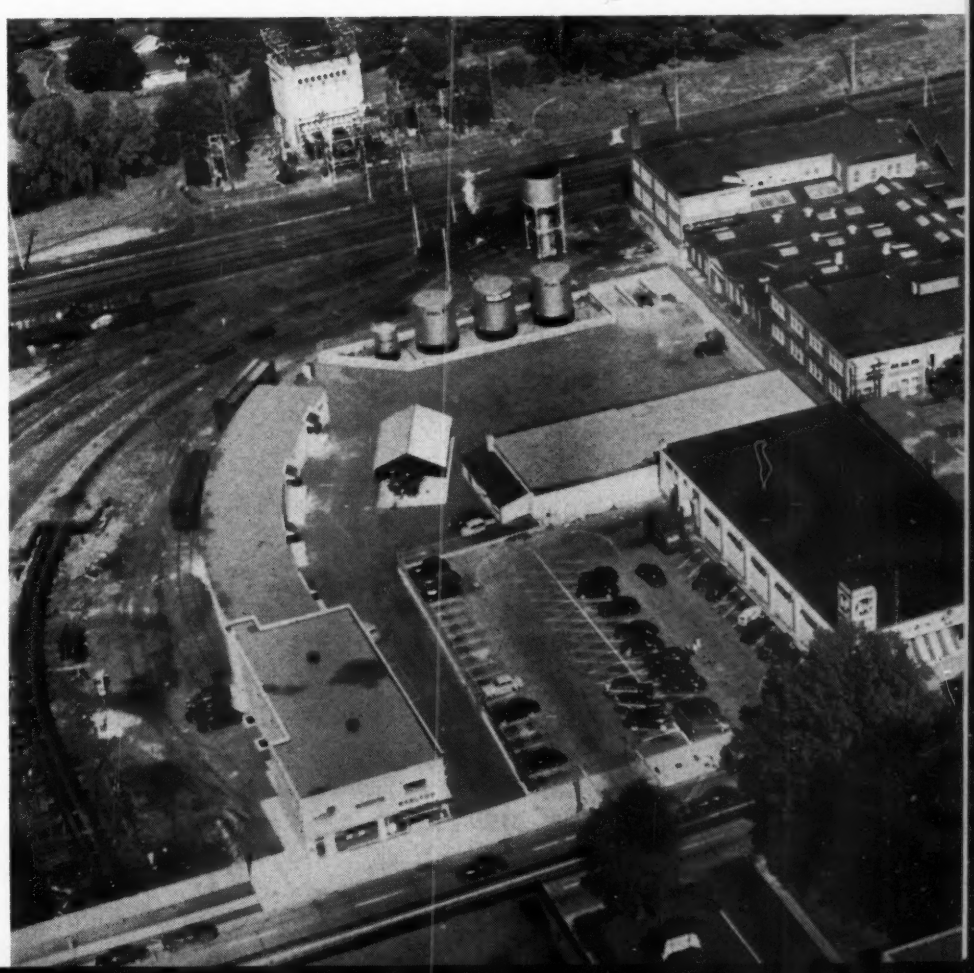
The office building measures 48 ft. by 102 ft. Skelton occupies the entire first floor, with the exception of a small office located adjacent to the door leading to the second floor. The architect, J. Bedford Wooley, planned the wall of this office so that it can be removed easily if it should become desirable or necessary to have all of the street front space as a showroom. The second floor is rented out, yielding some $12,000 a year income.

Behind the showroom-office area on the first floor is a warehouse for building materials, built in a continuous curve to conform to the shape of the railroad siding. This portion of the building extends for 200 ft. and is 31½ ft. wide.

In the L-shaped area to the rear of the building is a 50 ft. by 146 ft. garage, backing up to the supermarket. Here the company's fleet of 21 trucks —8 fueloil, 2 coal, 7 service trucks and 4 for handling building materials—is housed. Opposite are the three tanks of 48,000 gallon capacity each for storing No. 2 oil and the 10,000 gallon tank for No. 1 oil storage. The tanks are illuminated from two sides at night for advertising purposes and can be seen from the highway and from Pennsylvania Railroad passenger trains that pass to the rear.

Four loading positions are provided at the truck loading racks, which are equipped with pumps capable of delivering 200 gpm per pump. At Cynwyd there had been only two loading positions, with 100 gpm pumps, which slowed down operations considerably.

The Bryn Mawr layout, Joe Skelton points out, is physically 20% larger than Cynwyd, but its facilities provide better than 100% more flexibility. The main reason for this improvement can best be explained by the fact that the Cynwyd plant was built piece-by-piece, adding to and enlarging the original components as the need arose. In contrast, when the move to Bryn Mawr was decided upon, conferences between Skelton and the architect were frequent and lengthy, poring over drawings and sketches to be sure that the new building, warehouse and office space, garage and loading racks would provide the last word in functional facilities, with elbow room for reasonable expansion. For example, the building was designed so that everything would be on one floor, which has proved particularly helpful in handling incoming and out-



Air view *of Skelton's Bryn Mawr layout, showing the showroom and office, bulk plant, garage and loading space and the railroad siding.*

going shipments of equipment.

The Skelton company is exclusive outlet for Gulf fueloils and handles the General Electric line of oilfired units. When there is a call for conversion burners, Delco-Heat's are supplied. In addition, the firm displays and sells GE's line of appliances, including radio and television sets, refrigerators, washing machines, dish washers and similar items. Owens-Corning Fiberglas insulation and aluminum windows also are offered.

In 1928 when Joe Skelton joined his father, who had formed the company six years earlier, the company's total sales were slightly more than $50,000. Last year the company approached the million dollar mark in total sales, with about half of this amount credited to fueloil sales, coal sales equalling $100,000, building materials, $240,000 and heating equipment, $160,000, including $10,000 worth of appliances.

Another contrast, five years ago fueloil sales reached 2,500,000 gallons; this year Joe Skelton estimates they will increase to more than 5,000,000 gallons delivered to 2,200 fueloil customers.

J. Fred Tiefenbach heads the sales force of four men, is responsible for their hiring and training and does some selling himself. He and his men concentrate on sales of fueloil, appliances, burners and units. Another salesman, working directly under Skelton, handles only building materials. The four salesmen under Tiefenbach each receives a drawing account of $50 a week and works on commissions which average 12½%, ranging from 10% for burner sales to 15% for insulation and combination storm window orders. Plans which had been under consideration for expanding the sales organizations and assigning territories to each man have been stymied for the time being because of the uncertain conditions precipitated by the Korean fracas.

Impressive List of "Firsts"

The company always has exhibited consistent evidence of progressive action, being the first on the Main Line to handle fueloil and install a bulk plant when they commenced this operation in 1931 and the first, in 1949, to add electrical appliances. Again, in 1936 Skelton became the first fueloil dealer in the area to sell and service oilburners and today is the only company in the neighborhood that transports its oil with its own equipment. Its over-the-road transport holds 4,600 gallons and during the heating season operates on a twenty-four hour schedule with three shifts of drivers.

This innovation was undertaken in 1942. In that year, explains Joe Skelton, the company was shut off from railroad shipments, upon which they had relied for fueloil. The time was just after Pearl Harbor and the Pennsylvania Railroad, in common with others, was moving only military and other high priority shipments. The company was told that for the duration they would have to depend upon the trucking industry for deliveries.

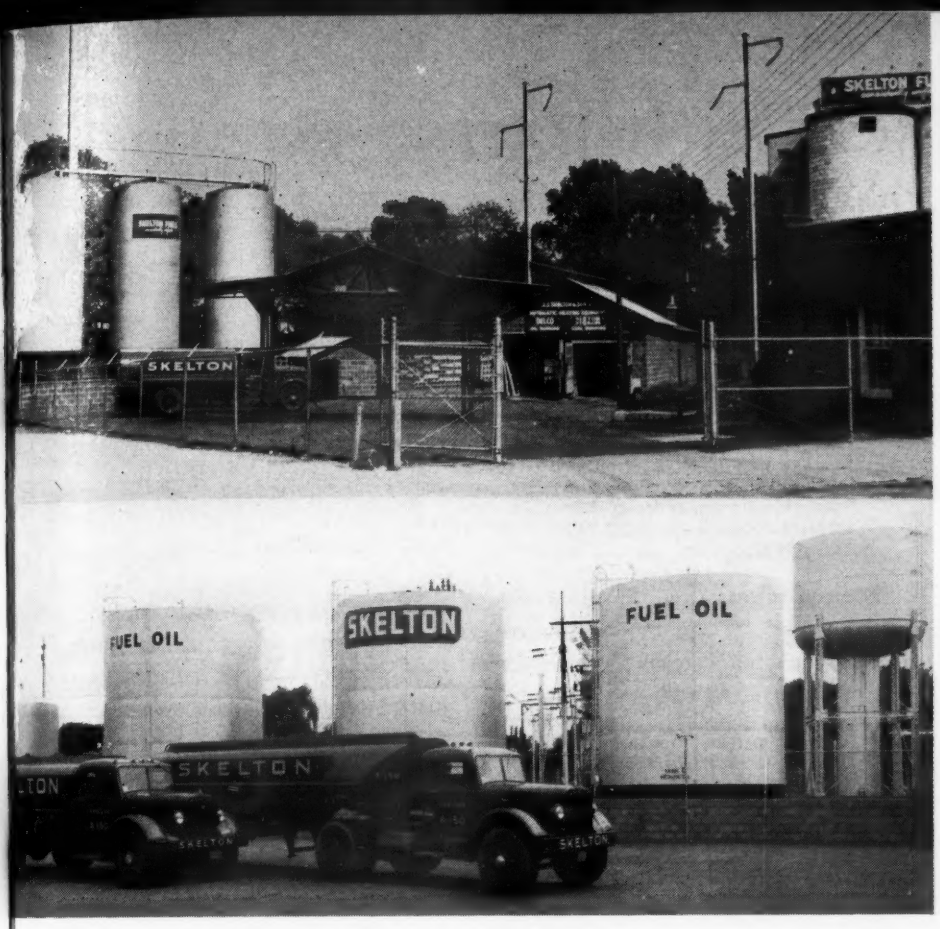
"Frankly," continues Skelton, "we didn't think they could do it, because they already were overloaded, they were feeling the pinch of manpower shortage so that maintenance would suffer and their equipment was frozen.

"We had placed an order with Autocar for an ordinary fueloil delivery truck and this too was frozen. However, a few months later we were told the order could be filled. We changed it to an over-the-road transport and we were in business."

Experience with the system has been eminently satisfactory, with costs averaging about one-quarter of a cent a gallon, compared with the three-quarters of a cent per gallon by rail. Additionally, when the organization moved from Cynwyd to Bryn Mawr rail rates increased enormously. Since the first transport was purchased replacements have been bought, other equipment has been acquired. "We're definitely planning to continue our own truck transport operation," says Joe Skelton.

Back in 1935, continuing the company's list of "firsts," Skelton was the

Loading racks *and building materials warehouse are shown above. The pumps provide four positions for loading, double the capacity of previous facilities and can handle twice as many trucks at one time.*



Top: *A view of the fueloil storage tanks and trucks. The truck on the right is the over-the-road transport, the one on the left is a fueloil delivery truck, convertible to hauling building materials. During the summer months, the tank is lifted off and a platform body substituted on the chassis.*

Bottom: *The original establishment at Cynwyd. J. J. Skelton & Son, Inc. had been located here from 1929 to June 1949. The place was abandoned because its facilities were inadequate and the move made to Bryn Mawr because it was more centrally located.*

first to install a silo plant for coal. When the building was contemplated at Bryn Mawr no facilities were provided for handling coal. Sales had decreased to a point where it was felt it would be wiser to pick up coal from another dealer's yard, as needed. However, just recently the company leased from the Pennsylvania Railroad a trestle and coal bins, and now operates them itself. In the first place, Skelton is convinced he can control more closely the quality of the coal and delays that used to plague drivers in other dealers' yards are eliminated.

Burner installation is handled by three crews, kept busy from May 1 to November 15, after which they augment four other crews on oilburner service work. Service is available to all of Skelton's customers, and about 80% of them are signed up on annual service contracts. Cost for this is $22 and no parts are included. The contracts call for a summer clean-up and unlimited service calls.

In connection with the summer clean-ups Skelton this year is trying a novel scheme. Heretofore, it was a nerve-wracking and well-nigh impossible task to complete all the summer clean-ups during the summer months and at a time that would be satisfactory to all the customers. It always happened that a number of homeowners would want their clean-ups done at exactly the wrong time, with the result that there always were some ticklish and strained moments.

Skelton reasoned that it wasn't so important when a burner installation gets its annual clean-up so long as it was done annually. In other words, a clean-up in January, when performed on a regular basis, would be just as effective as one at any other time. Then too, systems with summer-winter hook-ups would be operating in July as well as January so that the details of cleaning them would remain the same.

As a result, those service contract customers whose systems are equipped with summer-winter hook-ups have been asked to consent to the annual clean-up when it can be scheduled in an orderly manner, with the proviso that the service contract would be in effect for a twelve month period from the date of the clean-up. Thus, the Skelton service organization is free to concentrate on completing clean-ups of systems without summer-winter hook-ups during the months when the burners are idle and the others can be worked in when convenient. It's still a little early to judge how effective the arrangement is going to be, Joe Skelton conceded, but it's working out smoothly so far and no strenuous opposition has been encountered.

The business has been built on residential sales almost entirely and the company proudly boasts that it never has had a complaint from a customer who was stranded without oil. Even during the 1947 supply difficulties, Skelton was more interested in keeping his customers supplied than in adding new accounts.

He credits the efficient and prompt service which the company always has striven to render as contributing most to its success. This has been made possible, he believes, by the line of quality products the company offers, the selective manner in which personnel is hired and the cordial relationship that exists with the employees.

Admitting that present conditions made predictions risky, Skelton says he has no present plans for plant expansion at Bryn Mawr. He confides that "What we're going to do is concentrate on the lines we're now handling. I don't want a bigger place than this and I don't want branches. Here we have a streamlined set-up, have room for growth and look upon a 10% increase each year as our goal. It's just up to us now to go out and get it."

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Bert Graves, vice-president, Tide Water Associated Oil Co., New York City, has accepted the chairmanship of the Petroleum Division of the 1950 Fund Appeal for the Travelers Aid Society of New York, seeking $309,000 to support current activities.

Cost of Service with Parts

Operating Results of the past two Seasons by Sherwood Brothers, Baltimore

by
Robert Gray

FOR TWENTY DOLLARS A SEASON a well managed burner service department can supply its contract customers with complete care of every nature and make a profit, in the opinion of Tom Carson, who heads the oil-heating division of Sherwood Brothers, Baltimore. This would include summer overhaul, any emergency service, all parts, not only on the burner, but embracing combustion chambers, tanks and complete accessories.

Carson has not been getting $20 for this but he has been operating at a slight loss instead of a profit. Now with two full seasons' experience behind him the picture is fairly clear.

The Baltimore market has a different approach to service than some others would have. Starting in 1934 when the gas utility first started to push heating, burner service was included in the oil price for the next eight years. In 1942 with the war under way and no opportunities for further growth the dealers got together with OPA and established a charge scale for service. It was a small charge, based on $1.50 a call minimum.

After the war charge service carried on, but usually at rates somewhat below other large markets. Baltimore is probably unique in its high concentration of fueloil sales; seven companies have 85% of the gallonage and their principal goal in burner service is to keep the users well pleased with oil. They have worked to minimize or eliminate service losses, but they have not looked to this department as a profit source.

Sherwood renders burner service to substantially all of its 20,000 oil accounts in Baltimore. About three-fifths of these are on service contracts of one kind or another, the remainder on simply emergency call service.

Starting with the 1948-49 season a contract including parts was sold at $15.00. The parts coverage embraced everything on the burner, all controls and combustion chamber replacements where necessary. Annual overhaul was included. Highlights of that season's operation (6/1/48 to 5/31/49) were:

9,931 contracts in effect
Total cost for parts $20,141.93
Average parts cost per contract $2.16
Total calls made 30,196
Average calls per contract 3.2
Total man-hours spent 29,749
Average man-hours per call 0.986

For the next season the price was raised to $17.50 and the benefits remained the same. Here is the score for the period 6/1/49 to 5/31/50:

10,165 contracts in effect
Total cost for parts $25,764.69
Average parts cost per contract $2.53
Total calls made 35,362
Average calls per contract 3.5
Total man-hours spent 35,185
Average man-hours per call 0.994

It is interesting to notice that while the intent was the same in each season, the effect of the raised price was a slightly more liberal application of policies, both in number of calls per customer and in parts furnished within the contract. There are frequent borderline cases, and these were more often given the nod when more money had been paid in.

It is plainly seen from these figures, particularly from the number of calls, that the company was liberal in its interpretation of the contract. Carson and his crew wanted folks to be happy with oilheating.

For the third season, the one just ahead, additional changes have been made in the contract offering. Before describing these, let's look at the underlying philosophy that caused them to be offered.

You would think that having gotten more contracts at $17.50 than in the previous season at $15.00 the company would let things ride. But Carson was a little concerned over the fact that no competitors had ever gone above the $15 rate including parts and he was beginning to see pressure exerted by them against his $17.50 deal. Since the prize in the whole game is oil volume, he is particularly sensitive to minor things that could affect this major goal.

Sherwood has an extraordinarily good oil position. Of its more than 20,000 Baltimore accounts for No. 2 oil, only 40 are larger than individual homes. Unlike several of his competitors Sherwood hasn't a gallon of cut price business. The customer losses, including moves, credits and other causes, stay under 4% in any year. The gains are greater, as evidenced by the post-war growth in Baltimore alone from 11,000 in 1945 to 20,065 on August 31, 1950. There are 6,000 more Sherwood No. 2 oil customers in other parts of Maryland. They are locally managed and not included in this story.

In this new season, then, both a $15.00 and a $17.50 parts contract were offered. In addition there is the usual annual overhaul alone at $9.00.

The $15.00 one is called "Plan 1 Regular" and includes everything that was in the $17.50 deal last year. It is about the same $15.00 contract offered by competitors. Then the new $17.50 contract, called "Plan 1 Special," includes everything in the old contract, plus tanks, clock thermostats, circulators and furnace blowers. Most customers preferred the higher priced arrangement with the extra coverage, but Carson could relax over the competitive pressure, because he was now matching it for those who wished to save the money.

To make comparisons between this contract selling season and last, the figures include only those signed to the end of September, normally about 90% of a year's contracts. The score:

	Season 1949-50 Signed to 9/30			*Season 1950-51 Signed to 9/30*		
Plan 1 regular	9,190	@	17.50	2,999	@	15.00
Plan 1 special	..		..	8,343	@	17.50
Plan 2 overhaul	2,028	@	9.00	1,329	@	9.00
Total	11,218	av	15.97	12,671	av	16.02
Percent of oil accounts	59			63		

In looking at the dollar results from the service department, the company keeps these on a calendar year basis rather than by seasons. For the year 1949 the total service billing was just over $269,000 and there was a loss of $21,458. This loss was after figuring all overhead, including administrative.

The average number of customers throughout last year was about 18,300 so the average amount spent for service by all types of service plans, or none at all, was $14.70. The average spent by all customers not using any form of contract was $12.70, but of course they did not get the annual overhaul.

The loss, divided to all customers, was $1.17 each, and if applied only to contract customers it was $1.91. That is why Carson says that a $20 contract to cover everything would be profitable. Of course, it is important to recall that during half of the calendar year 1949 the contracts were on the $15 basis and in the latter half were $17.50.

Wages and working Conditions

The question naturally arises, in reading figures like these, as to what were the wage and working conditions of the men that went into this cost. It has been generally believed that Baltimore is a low wage city, because it was before the war. That is no longer true; war industries changed that; now its rates are about average for union workmen.

The Sherwood installation and service men are members of District 12, International Association of Machinists. A few highspots of their current contract include these:

The work week is 40 hours. The various shifts are rotated to cover 24 hours, seven days a week. A man is paid straight time, regardless of days of the week, Sundays, holidays or whatever, so long as they come on his regular rotated schedule. For Sunday or holiday work when not on his schedule he gets double time. Other overtime work is based on the week, not the day, at the regular time and a half.

Employees who regularly use their own cars on this work are given a monthly allowance of $30 plus 5¢ a mile. An employee who only occasionally uses his car in an emergency is paid straight 8¢ a mile.

Sick leave with pay is 80 hours a year, with a two year carryover.

Vacations with pay are two weeks for each man employed a year or longer and three weeks for 15 year employees.

The company furnishes without charge five uniforms and two uniform caps per year.

This is the pay scale:

Installation and Shop Mechanics

Trainee rate	$40 weekly
Starting rate	45
After six months	50
After twelve months	55
After two years	60
After three years	62.50
After five years	65

Service Mechanics

Up to three years the same rates as for installation men

After three years	$65 weekly
After four years	67.50
After five years	70

In the January issue of FUELOIL & OIL HEAT appeared a table showing service wage rates under varying conditions. Comparisons show that Sherwood's rates are just average for Mid-Atlantic region large cities.

Sherwood's oilburner sales in 1949 grossed a little over $400,000. They showed a small net profit, offsetting the service department losses; the two departments combined broke even.

That might look like a lot of work for nothing, but it's far from true. The gains, other than monetary, were great. Building the company's huge retail oil volume, year by year, has been the result. The thousands of customer contacts that come through burner sales and service give the company a penetration of the Baltimore market that it could get in no other way. They keep it close to the grass roots of oilheating . . . they bring new sales approaches, new advertising copy slants, new merchandising finesse.

Nine-man sales Department

The sales department headed by Oliver Traver, working with Carson, is an amazing activity in itself. Only nine outside men handle the whole thing. Each has a territory covering around 2,000 oil accounts. His job is to keep them sold, keep contracts renewed, including service contracts, chase people who move, watch empty houses, adjust complaints, collect delinquents. In the year from September 1949 to September 1950 these men added 1,700 new accounts to the list . . . actually more than that, because the net gain after losses was 1,700.

This oil job was only part-time work. These same nine men sold all of the company's new oilburners, which is how they got most of the new oil accounts. The men have straight salaries for their work on the oil accounts, plus commission bonuses for equipment sales. They have high earnings.

Where else in the oil industry can you find salesmen who faithfully shepherd over 2,000 oil accounts each and add 200 annually . . . unless they do it through the close customer relationships of an oilburner department? You can't. As Carson expressed it a few years ago, "Before we sold oilburners and service it cost us 1¼¢ a gallon to sell oil, everything considered . . . now it costs us ¼¢."

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New York lays plans For Smoke Control Week

NEW YORK CITY civic groups have selected November 12 to 18 as Smoke Control Week, following observance of National Smoke Abatement Week which began on October 22. The New York City program was formulated with the cooperation of the City's Bureau of Smoke Control as a means of familiarizing the public with new rules and regulations which went into effect on October 1.

An arrangements committee was elected at a meeting of the civic groups, and William G. Christy, director, Bureau of Smoke Control, suggested the program should emphasize the necessity of smoke control "from an economical, health and safety point of view." Talks, movies, window displays, newspaper publicity and posters were some of the media used for disseminating the theme, with the messages directed to operators of home heating systems, apartment and multiple dwelling house owners, stationary firemen, firemen and operators of other fuel burning equipment, as listed in the City's smoke control rules.

Importance of Oilburner Nozzles

Part I—Factors controlling the delivery Rate and spray Pattern

by
K. J. Whittet*,
H. G. Murray*
and C. L. White*

THE IMPORTANCE of the nozzle in the efficient operation of oilheating system has long been realized. This little metal unit, no more than an inch long, controls fuel delivery rate, atomization and spray pattern. It can shut down a heating system or help it to operate at peak efficiency.

In the course of recent studies of domestic heating equipment by the Socony-Vacuum Oil Co. Laboratories, it became increasingly apparent that the nozzle was affecting heating efficiency in the average home to an even greater extent than was generally believed. As a result, a full-scale investigation, both in the laboratory and the field, was launched to study:

1. The factors which control fuel delivery rate and the spray pattern.

2. The effect these factors have on fuel combustion efficiency. (In the December issue as Part II)

The following factors were studied: nozzle calibration, pump pressure, fuel properties, temperature and mechanical condition of the nozzle.

The results of the investigation pointed to important avenues for improvement of heating efficiency which, especially in view of the competitive fuels situation, should prove of particular value to men of both the fueloil and burner equipment industries.

A detailed discussion of these results follows.

The gun burner Nozzle

The essential burner parts which control fuel delivery are the pump, pressure regulating valve and nozzle. The nozzle primarily controls the fuel rate, atomization and spray pattern of the oil. As shown in Figure 1, it has four essential parts—a fine mesh strainer, a disc stem with tangential slots, a conical swirl chamber, and an orifice. The oil is filtered by the strainer, enters the slotted stem, which produces a rapid rotation of the oil within the swirl chamber. The oil is ejected from the fine orifice at a high rotational-velocity resulting in atomization as it enters the air stream of the burner.

Nozzles are calibrated to deliver the oil at a fixed rate and spray angle. The rate, measured in gallons per hour, and the spray angle, in degrees, are marked on the nozzle.

Calibration

It is well known that a heating plant must be fired with the proper amount of fuel in order to give the householder a maximum of efficiency and comfort. Many servicemen take the markings on a nozzle absolutely at face value. In our laboratory and field studies of nozzles we have checked the actual fuel delivery rates of most makes of nozzles that are sold to the industry. Many of these nozzles were bought from open stock. Results of tests on a typical batch of these nozzles (from four manufacturers) are shown in Figure 2. These nozzles were checked at 70-80°F. with a 35 S.S.U., @ 100°F. No. 2 fueloil. Almost identical results were obtained on two other batches of nozzles obtained in the same way. In all, over 400 nozzles (0.5 to 2.0 gph) were tested.

A statistical analysis of the results showed:

1) About 25% of the nozzles delivered 0.2 gph (or more) below their rating.
2) About 21% delivered 0.1 to 0.2 gph below rating.
3) Only 54% of the whole group delivered within ±0.1 gph of rating.
4) None delivered over 0.1 gph more than rating.

On a 2 gal. nozzle ±0.1 gph is equivalent to ±5% which is the standard tolerance set by most nozzle manufacturers for their nozzles. For the smaller sizes 0.1 gph is a much larger percentage. It is noteworthy that more of the large nozzles were within their ±0.1 gph rating than were the smaller nozzles. If a 2 gph nozzle delivers 1.9 or 2.1 gph it would not seriously affect a burner's operation, but if a 0.65 gph nozzle were below 0.55 gph the householder might be cold.

In another study we obtained a number of nozzles directly from two large manufacturers. Both manufacturers claim that they check all nozzles to de-

TABLE I

Summary of Results of Calibrating Nozzles From Manufacturer A

Nozzle Rating gph	*No. Tested*	*No. Within ±0.05 gph*	*No. Within ±0.1 gph*	*No. Outside ±0.1 gph*
0.5	12	5	10	2
0.65	12	9	11	1
0.75	12	8	10	2
0.85	15	7	11	4
1.00	15	5	9	6
1.25	13	—	9	4
1.35	14	—	10	4
1.50	14	—	10	4
1.65	15	—	12	3
1.75	15	—	15	0
2.0	15	—	14	1

TABLE II

Summary of Results of Calibrating Nozzles From Manufacturer B

Nozzle Rating gph	*No. Tested*	*No. Within ±0.05 gph*	*No. Within ±0.1 gph*	*No. Outside ±0.1 gph*
0.75	20	20	20	0
1.00	20	8	18	2*
1.25	20	19	20	0
1.50	20	15	19	1**

*Delivered 0.87 and 0.88 gph.
**Delivered 1.36 gph.

*Socony-Vacuum Oil Co. laboratory, Technical Service Dept., Brooklyn, N. Y.

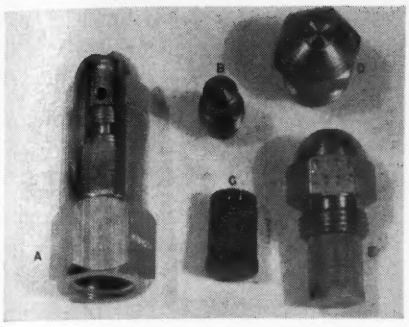


Fig. 1. *Cutaway (A) shows relative position of nozzle parts when installed in adaptor fitting. Components are stem, showing tangenital slots (B); strainer (C); nozzle body, showing orifice (D) and assembled nozzle (E).*

liver within 5% of rating. A comparison of the ratings obtained from the manufacturers with actual delivery rates determined in the laboratory is shown in Tables I and II. This indicates that as far as rate is concerned manufacturer "B" is doing a much better checking job. Both nozzles are sold for approximately the same price.

There are two ways of attacking this problem:

1) Marketing by manufacturers of 100% tested nozzles.

2) Use of calibrated master nozzle sets by servicemen to compare with unknown nozzles. If a nozzle is put into a burner and does not give a flame that looks right to the serviceman, then he can substitute his calibrated nozzle for comparison. When instruments are used a lower CO_2 reading will be obtained with an overrated nozzle if compared to a calibrated nozzle at the same air setting.

Fuel pump Pressure

Nozzles from 0.5 to 3.0 gph were tested over a range of pump pressures to determine the effect of pressure on fuel delivery rate. It was found that as pump pressure was increased the fuel rate increased about 3.5-4.0% for each 10 pounds change in pump pressure. The rate of change varied to a small degree among individual nozzles. Typical results are shown in Figure 3. These results check data in the U. S. Bureau of Standards (Report WF-A-0-28).

From a practical standpoint if higher or lower pressures than 100 pounds are used a correction of 4% in delivery rate for each 10 pounds pressure change can be applied. For instance, if a nozzle that delivered 1.50 gph at 100 pounds were to be operated at 130 pounds the fuel delivery would be about $1.50 \times (.04 \times 3) + 1.50 = 1.68$ gph.

Fuel Properties

A comparison of the fuel rates of kerosene, No. 2 fuel, No. 3 fuel, and No. 4 fuel, at pressures from 50 to 150 pounds are shown in Figure 4. These fuels cover a viscosity range from 1.7 to 7.4 cks. (30-50 SSU @ 100°F.). This chart shows the pressure-rate curves of each fuel to be roughly parallel at pump pressures above 80 pounds. Below this pressure the kerosene rate drops off sharply.

Apparently, the change in fuel rate in going from one grade of fuel to another is primarily due to changes in viscosity. Increases in viscosity in this range of fuels increases the fuel rate. Other properties of the fuel such as volatility, surface tension, etc. appears to have only a minor effect. A wide variety of fuels in the kerosene and No. 2 fuel range were tested with 0.75 to 1.5 gph nozzles. Results as shown in Table III indicate that variations in fuel rates of oils having the same viscosity, are rather small. Considering the range of fuels tested the results are fairly consistent.

It is interesting that the 34.6 second viscosity distillate having an API gravity of 26.8 gave almost identical fuel rates as a diesel fuel having almost the same viscosity, approximately the same volatility, but an API gravity of 36.9°.

In the field most No. 2 fuels will have a Saybolt viscosity in the 33-37 second range, and have distillation end points ranging from 580 to 680°F. If we take a 35 second viscosity, 650°F. end point oil as a base fuel, variations within this range would not affect the fuel delivery rate by more than ±5%. On the East Coast most fuels will fall in the 34-36 second viscosity range and maximum differences in fuel rate would vary by ±3% from the above.

Temperature

Laboratory bench tests indicate that between 20° and 80°F. the fuel delivery rate of a nozzle is decreased about 1% by volume for every 10°F.

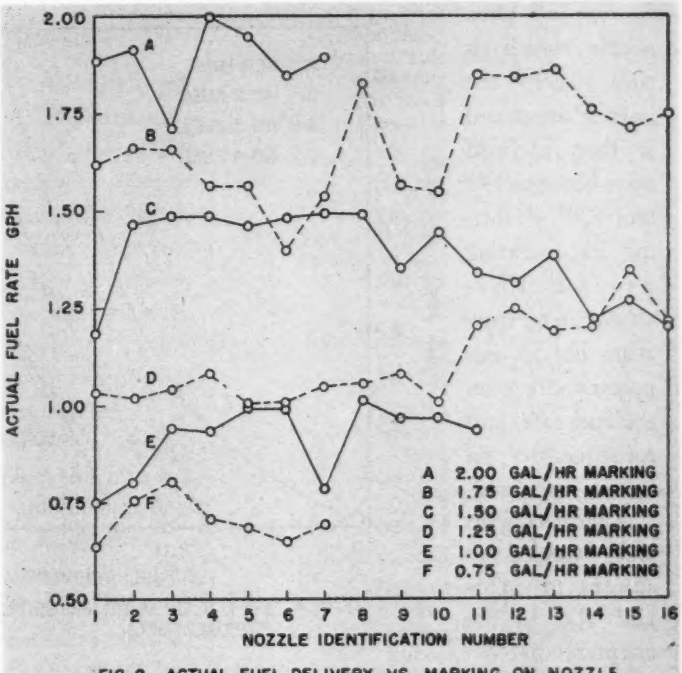


FIG. 2 ACTUAL FUEL DELIVERY VS MARKING ON NOZZLE

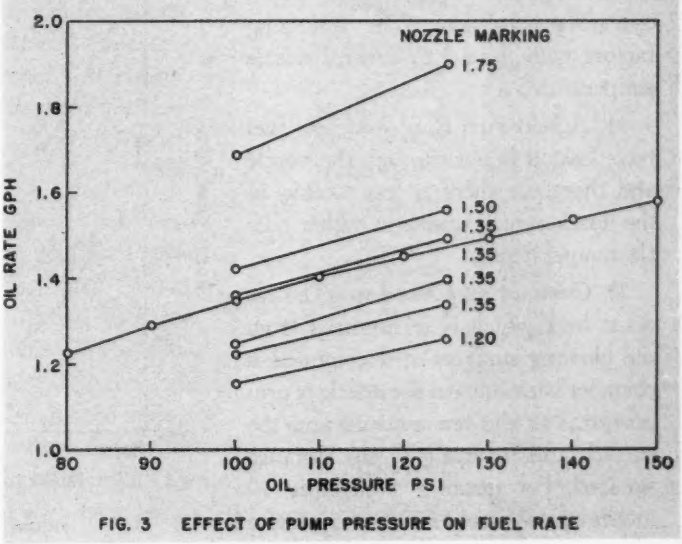


FIG. 3 EFFECT OF PUMP PRESSURE ON FUEL RATE

TABLE III

Comparison of Fuel Rates On Various Fuels

Fuel No.	1	2	3	4	5	6	7
Type of Fuel	*#2 Fuel*	*#2 Fuel*	*#2 Fuel*	*Diesel Fuel*	*Special Distillate*	*Exper. #1 Fuel*	*Exper. #1 Fuel*
A. FUEL INSPECTIONS							
Gravity, °API	33.2	32.8	33.2	36.9	26.8	30.9	35.2
Viscosity, CKS.	2.7	2.7	2.4	2.6	2.5	2.1	2.05
SSU @ 100°F.	35	35	34	34.8	34.6	33.0	32.8
I.B.P. °F.	346	340	350	352	398	372	372
10%	423	425	428	428	449	426	420
50%	502	505	498	504	492	467	467
90%	587	584	556	591	556	530	537
E. P.	638	645	609	648	632	580	597
B. NOZZLE TESTS							
Rating *Angle*							
0.75 80°	0.76	0.76	0.73	0.75	0.73	0.70	0.70
1.0 80°	0.93	0.91	0.90	0.90	0.90	0.89	0.88
1.25 80°	1.25	1.23	1.21	1.23	1.24	1.20	1.18
1.50 80°	1.42	1.41	1.38	1.41	1.43	1.36	1.35

rise in temperature. The change probably can be attributed to the combination of nozzle metal expansion and decrease in fuel viscosity.

In actual burner operation the fuel is supplied to a nozzle which is cold when the burner starts and is then warmed up to between 150 and 400° F. during its operating period. This change in temperature has an important effect on the fuel rate, and consequently on burner operation.

Thermocouples were welded to several nozzles and also to the adapters to determine nozzle temperatures under operating conditions. The following factors were found to control nozzle temperature:

1) *Actual Fuel Rate*—At low fuel rates less oil is put through the nozzle and therefore there is less cooling of the nozzle which results in higher nozzle temperatures.

2) *Combustion Chamber*—The radiant heat which is transmitted from the glowing surfaces of a combustion chamber back toward the nozzle is proportional to the temperature and the surface and inversely to the distance squared. For instance a chamber 10 inches square would reflect about twice as much heat back as would a 20 inch square chamber. Therefore, a smaller size nozzle would tend to get hotter than a larger nozzle even though the chamber size is in each case proportional to the size of the nozzle. (i.e. 1 gal. oil/100 sq. in. floor area.)

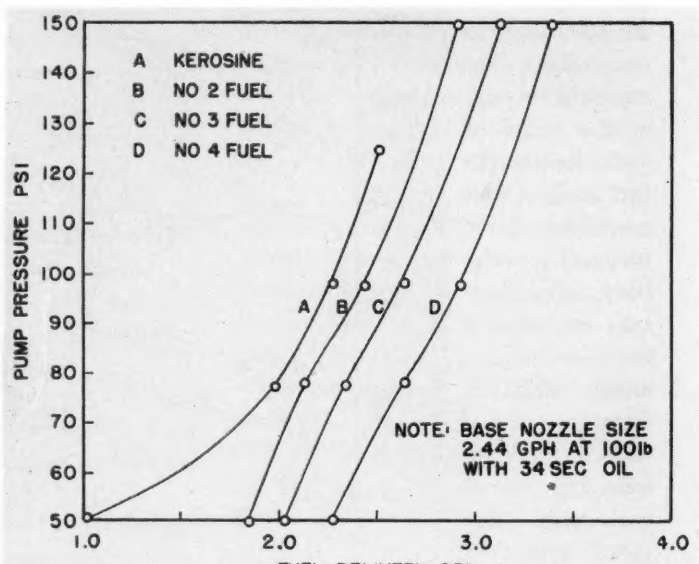

A KEROSINE
B NO 2 FUEL
C NO 3 FUEL
D NO 4 FUEL
PUMP PRESSURE PSI
FUEL DELIVERY GPH
NOTE: BASE NOZZLE SIZE 2.44 GPH AT 100lb WITH 34 SEC OIL

FIG. 4 EFFECT OF PUMP PRESSURE ON FUEL RATE OF TYPICAL FUELS

The nozzle temperature would also be affected by the type of refractory used in the combustion chamber and to the degree of overfiring or underfiring. Obviously an overfired chamber will get much hotter than will an underfired chamber.

3) *Amount of Excess Air*—Flame temperatures are proportional to the amount of excess air. At high (13-14%) CO_2 levels flame temperatures up to 2400°F. were measured with an optical pyrometer. At 7% CO_2 the flame temperatures were about 2000° F. Also at higher CO_2 settings less cooling air is going by the nozzle into the chamber. Therefore, at higher % CO_2 settings the nozzle is subjected to the combined effect of higher flame temperature and less cooling air than at lower % CO_2 settings. When a 1 gph nozzle was fired in a 100 sq. in. (17 in. high) combustion chamber at 11.2% CO_2 the actual nozzle temperature was 355°F. while at 6.5% CO_2 the actual temperature had dropped to 178°F. These measurements were made after the burner had operated for over an hour at each rate.

To further complicate matters it was found that the effect of nozzle temperature on fuel rate was slightly different for nozzles of the same make and considerably different for nozzles from different manufacturers. Evidently the effect of temperature under firing conditions is also a function of nozzle design. In Figure 5 are shown Fuel Rate-Temperature curves for several noz-

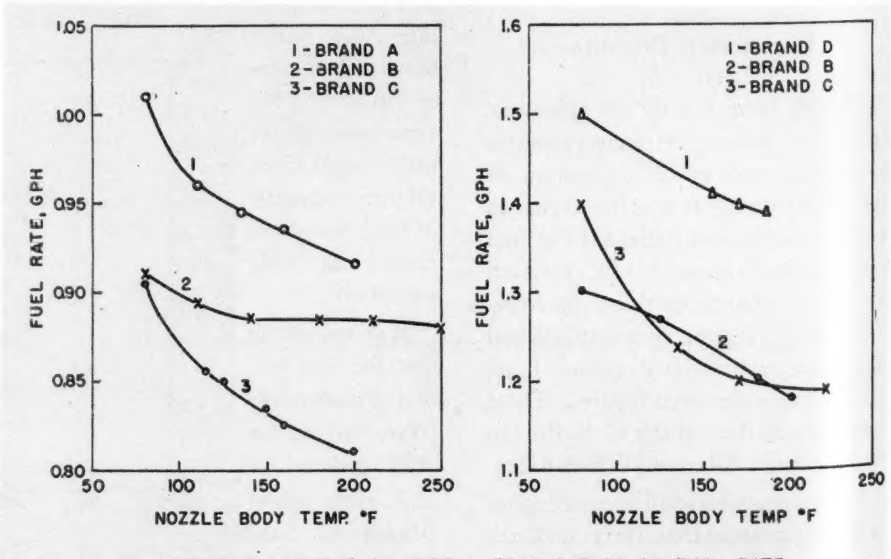


FIGURE 5 EFFECT OF NOZZLE TEMPERATURE ON FUEL RATE

zles. These nozzles were rated cold, and then periodically checked after the burner was started. This data shows that when a burner starts it will deliver an amount of oil close to that obtained in a bench test, but as the nozzle gets hotter the rate continues to drop off. Also, that each nozzle behaves somewhat differently.

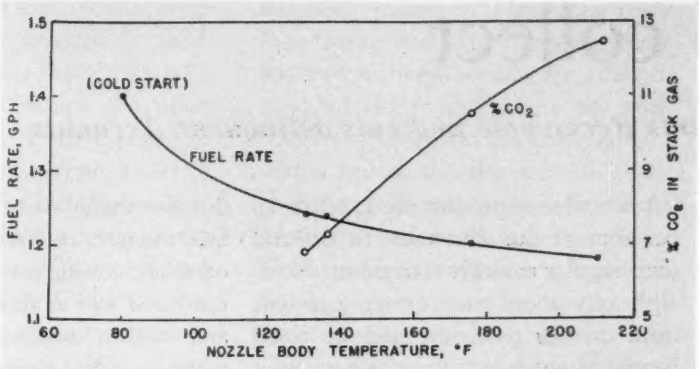


FIGURE 6 EFFECT OF EXCESS AIR SETTINGS ON NOZZLE TEMP AND FUEL RATE

In Figure 6 are shown the effect of excess air settings on nozzle temperature and fuel rate. These data show that at higher CO_2 settings the nozzle gets much hotter and delivers considerably less fuel than at lower settings.

Therefore, the burning of fueloil in a gun type burner is not accomplished under static conditions but under such changing conditions that the fuel rate to a burner may fall off as much as 15% during burner operation.

Torque setting on disc Stems

By using a torque wrench the force which had been used to screw the disc stems into the nozzle body was measured on nozzles as received. They were found to be generally set in the 10-20 lbs. range. Settings down to 5 lbs. and up to 30 lbs. did not change the fuel rate or performance of any of the nozzles tested. At settings below 5 lbs. erratic fuel rates were occasionally encountered, probably due to leakage of oil around the disc stem. No work was done at higher torque settings.

Condition of Slots

Many of the faulty nozzles were found to have burrs or other irregularities in the stem slots of the nozzles. These were of sufficient size to restrict oil flow and usually resulted in poor spray patterns and reduced fuel delivery. Most of these irregularities could be easily spotted with a medium power magnifying glass. When these slots were smoothed many of the nozzles improved enough to be satisfactory.

Dirt in these slots, particularly in the nozzles of low capacity, caused low fuel rates and distorted sprays.

In the field a smaller flame than expected, a distorted spray, or both may indicate a partially plugged nozzle that can often be corrected when the nozzle is thoroughly cleaned. This applies to new nozzles as well as to older ones.

Cleaning Nozzles

If a nozzle is to be stored after being used or tested, it should be thoroughly cleaned in solvent, dried, and placed in an air tight container to keep it clean. As an illustration of the importance of this point when we tested forty 0.5 gph nozzles from one manufacturer 38 of them would not even spray oil satisfactorily. Upon examination, these nozzles were found to be coated with a thin film of gummy residue, probably from the test oil used to check the nozzles. When this film was removed with acetone, most of the nozzles were found to be satisfactory.

In the field a serviceman will often change nozzles several times on a job to get one that he considers satisfactory. At the end of the day these used nozzles should be rinsed in solvent, dried, and put back into individual containers. This precaution will help to minimize many nozzle troubles, particularly with nozzles of low capacity.

❖

Richard T. Demarest has been named to the new post of assistant sales manager, KO-Z-AIRE, Inc., Red Oak, Ia. As such he will coordinate sales and distribution policies under the company's new marketing program. Previously Mr. Demarest had been market analyst and assistant sales manager for Morrison Steel Products' Furnace Division and before that with Fitzgibbons Boiler Co. for 11 years.

Estimated gas heating Systems by States

A TOTAL OF 7,800,000 homes in the United States were heated by gas on April 1, 1950, according to an estimate published in the October 1950 issue of GAS HEAT. Of these, 3,216,300 are classified as central heating installations, 3,487,500 are gasfired space heaters and the balance, 1,131,300 are floor and wall furnaces.

Centrally installed gasheating systems by states as of April 1, 1950, are estimated as follows:

	Central Heating
Maine	900
New Hampshire	1,000
Vermont	100
Massachusetts	26,200
Rhode Island	3,700
Connecticut	7,300
New England	39,200
New York	167,800
New Jersey	40,500
Pennsylvania	206,000
Delaware	1,800
Maryland	40,000
Dist. of Columbia	38,000
Central Atlantic	494,100
Virginia	15,600
West Virginia	60,900
North Carolina	200
South Carolina	800
Georgia	36,100
Florida	2,600
South Atlantic	116,200
Kentucky	52,000
Tennessee	16,800
Alabama	17,100
Mississippi	20,700
Arkansas	9,900
Louisiana	21,800
Oklahoma	71,200
Texas	100,200
South Central	309,700
Michigan	250,600
Ohio	541,400
Indiana	30,900
Illinois	137,700
Wisconsin	16,700
Minnesota	89,500
Iowa	51,100
Missouri	149,700
Kansas	118,800
Nebraska	68,600
North Dakota	5,400
South Dakota	17,500
North Central	1,477,900
Montana	32,200
Idaho	100
Wyoming	14,900
Colorado	89,200
New Mexico	11,300
Arizona	30,300
Utah	35,300
Nevada	100
Mountain	213,400
Washington	4,700
Oregon	9,900
California	551,200
Pacific	565,800
United States	3,216,300

It's easier to collect

New System simplifies Accounts Receivable and cuts delinquent Accounts

by
Harold Hoffman*

CREDIT RATINGS ARE GOOD for some 4,500 consumers of heating and fueloil in the Westchester-Connecticut suburbs of New York City. These 4,500 consumers are customers of the Hoffman Fuel Company in Stamford, Conn., and the reason their credit is good is that Hoffman has simplified its collection procedure, eliminated statements and provided a more direct channel for customer payments.

This water-terminal fueloil plant of 21,000,000 gallons capacity collects promptly from nearly 90 per cent of its 5,000 accounts and accomplishes this with a staff of three clerks and only occasional attention from the credit manager. Fewer than 500 monthly statements are issued and only the simplest form of invoice covers each shipment to consumer. Customers who formerly waited for statements before making payment now make remittances before the time they would have received statements under the old system.

Billing was way behind at the end of the 1947-48 heating season when delinquent accounts represented 14½ per cent of total accounts. Two bookkeeping machines were inadequate for the 3,300 accounts then on the books. Our credit manager had his headaches with improperly extended credits. A complicated system of delivery slips, invoices and monthly statements made collections a monumental task of paper work.

Today's collection control is simple and almost automatic. Remington Rand installed its Simplified Unit Invoice Accounting Plan for the Accounts Receivable on September 1, 1948. We notified our customers that, henceforth, they would receive only a single invoice with each delivery of heating oil, then sat back and waited for the demands for monthly statements to flood our mails.

We were mistaken. The new system looked good from our office standpoint but we were expecting about 60 to 70 per cent of our customers to demand their regular monthly statements. Actually, only about nine or ten per cent insist on this procedure and we could handle as much as 40 per cent without taxing our office staff. Customers do not need statements with the new delivery slips, correctly priced and extended by the driver, to serve as invoices. This alone has meant a considerable saving. We had estimated that preparation, stuffing, envelope and mailing cost us about ten cents per statement. But, to be conservative in the estimate we've used the figure of five cents and on this basis, by eliminating 4,500 statements, we are saving about $225 a month or $2,700 per year.

Cutting costs had become imperative with us as with everybody else in the fueloil business today. Our growing volume of sales had made it necessary to do something about billing—and our first thought, of course, was to get another accounting machine. But Remington Rand told us about the new method and how it eliminates ledger posting which in turn eliminates transcription errors. We found that it cut down the work to such an extent we were able to handle a 50% increase in volume with less than 33 1/3 per cent increase in staff. Besides, clerks are more easily trained because they are obliged to learn only the system and not the operation of a machine.

The whole credit procedure is now practically automatic. Drivers make deliveries according to the Degree Day schedules set up on Kardex. Delivery tickets are made up in triplicate from the Degree Day records and are routed to Kolect-A-Matic for credit approval. Clerks approve within limits based on the amount due and delinquency status.

One of *the double-pedestal Safe-Ledger desks which housed the original records of Hoffman's simplified unit invoice accounting plan. The clerk is removing a customer's invoice from the drawer to record a payment. Three trays are in each drawer of the desk.*

*President, Hoffman Fuel Co., Stamford, Conn.

Drivers fill in the correct charges according to a scale provided for each driver, leave a copy of this invoice with the consumer and return the other copies to the office. Even though the credit manager now sees only about 10 per cent of each day's charges (those which go beyond the limits set for the account), collections have shown marked improvement. Collection letters and past-due statements, when required are sent automatically. There are fewer instances of refusal to deliver because of past-due amounts.

How Collections are made

Collection procedure is this — we send an open item statement five to ten days after an account is due. This is followed by a collection letter in ten days. At this time the clerk prepares an "internal open item statement" in duplicate—the original goes to the collection manager, the duplicate is put in the customer's file. The account clerk stops the follow-up and the responsibility for collection is turned over to the Collection manager.

The new system, housed in two double pedestal Safe-Ledger Desks insulated to withstand the ravages of fire, were still not filled to the capacity of their 12 trays when we expanded the system in 1949 by about 40 per cent capacity at a cost of only about $600. If we had been compelled to expand a machine system an equivalent amount it would have cost us around $3,000. With the new system merely added a single pedestal desk to obtain a total of 15 Kolect-A-Matic trays.

The system's simplicity except for the volume it handles might be compared with the spindled invoices and single entry bookkeeping of 50 years ago when Michael Hoffman, still active as president of Hoffman Fuel, first went into the coal business in Bridgeport, Conn. Credit, then, was extended through personal knowledge of each individual account. Delivery slips were spindled to be entered in the journal daily. Accounts receivable was a matter of "charge-now-and-pay-later."

What we have now is more efficient but just as simple as the spindle and the journal. Pre-printed invoices give the drivers full instructions for reaching the consumer's residence or place of business. Drivers enter the meter readings before and after delivery, enter the correct charge amount according to a scaled chart, and secure the consumer's signature on the single invoice which covers the transaction. Office copies are housed in the Kolect-A-Matic trays of the Safe-Ledger desks. Credit cards are kept with the invoices. When payment is made it is recorded on the invoice which is then removed. Drivers seldom make errors in filling out the invoice and these occur only occasionally in the computation of sales tax. When such an error occurs a corrected invoice is sent immediately.

The sharp decrease in our delinquent accounts in the past two years is in itself enough to convince us that new layout for Accounts Receivable is more efficient than any other system we have tried. Combined with the Degree Day system for delivery control, it has made our entire distribution operation almost automatic.

Porter protests Control Of "End-Use" of Fuels

SPEAKING BEFORE THE Texas Mid-Continent Oil and Gas Association at Dallas on October 4, Frank M. Porter, president, American Petroleum Institute, described proposed federal control of the "end-use" of fuels as a threat to the public's freedom to buy the kind of fuel it wants in an open and competitive market. He criticized the resolution introduced in Congress by Sen. Francis J. Myers, Pennsylvania, to establish a national fuels policy to control "use of all fuels and energy resources except atomic energy."

Mr. Porter warned against concentration of such power in the hands of one man or small group of men and pointed out that "whoever controls the energy resources would control our productive capacity." Such control would cover all civilian goods in time of peace and military materiel in time of war. He continued by reproaching the United Mine Workers and other segments of the coal industry who apparently look to regulation of legitimate competitive forces to cure the industry's ills. Oil and gas have been chosen by the consumer to supply 56% of the nation's energy requirements, contrasted to coal's share of 38% today and 71% in 1925, said Mr. Porter, and explained that today's dominant competitive position of oil and gas is the result of the petroleum industry's ability to produce "new and more efficient products in advance of demand."

Oil and Gas Competition

"The oil and gas industries present a perfect example of the truth that freedom to produce, so far as possible without waste, our full requirements of all natural resources is the best way to insure the greatest quantity of the highest quality at the lowest price," declared Mr. Porter.

Acknowledging the growing competition between oil and gas, he remarked that if the oil industry fails to meet the competitive challenge as the coal industry did then it must accept the inevitable result, "but I hope we will not call upon the government to restrict the use of gas to regain the competitive markets we may have lost."

Any effort to control the end-use of fuel, besides being an effort to "limit liberty," also would include the regulation of intra-state as well as inter-state use of all energy resources and could include the "control of production, prices and wages; the restraint of competition and the management of our national economy in every aspect which is directly or indirectly influenced by such energy resource controls," Mr. Porter declared. The administration of such a policy, he continued, could mean only a complex system for licensing consumers of different types of energy resources for particular uses, involving priorities for various grades and degrees of permissible or prohibited uses and the inevitable interpretations and applications common to federal regulation.

"What industrial plants, commercial establishments or household users are going to give up the use of oil or gas?", he concluded. "Who will be required to use coal or switch to some other energy resource?

"Government control of one segment of our economy leads eventually to the control of our entire economic system. The end result of end-use control of energy resources is economic regimentation of industry."

Range Oil Sales By Grades and by States U. S. Bureau of Mines

(Thousands of 42-gallon barrels)

NEW ENGLAND STATES

	Kero-sene	No. 1 Fuel	1949 Total	1948 Total
Massachusetts	12794	692	13486	14798
Connecticut	4056	305	4361	5345
Rhode Island	2705	106	2811	3311
Maine	2172	108	2280	2674
N.Hamphsire	1235	64	1299	1673
Vermont	778	25	803	805
	23740	1300	25040	28606

MIDDLE ATLANTIC STATES

	Kero.	No. 1	1949	1948
New York	9169	421	9590	10732
New Jersey	4291	410	4701	6040
Pennsylvania	2179	228	2407	2816
Maryland	1227	7	1234	1291
Dist. of Col.	324	1	325	294
Delaware	629	..	629	299
	17819	1067	18886	21472

MIDWESTERN STATES

	Kero.	No. 1	1949	1948
Illinois	2562	2440	5002	5485
Michigan	832	1435	2267	1881
Wisconsin	604	1140	1744	1762
Iowa	806	749	1555	1525
Minnesota	543	892	1435	1825
Missouri	747	722	1469	1554
Ohio	954	297	1251	1385
Indiana	1141	568	1709	1082
Nebraska	356	176	532	665
Kansas	335	161	496	470
N. Dakota	166	46	212	407
S. Dakota	141	104	245	380
	9187	8730	17917	18421

WESTERN STATES

	Kero.	No. 1	1949	1948
California	306	..	306	493
Montana	61	108	169	293
Colorado	85	102	187	350
Wyoming	54	10	64	80
New Mexico	134	12	146	220
Washington	27	..	27	106
Oregon	32	..	32	52
Utah	11	29	40	68
Arizona	10	..	10	22
Idaho	24	43	67	85
Nevada	2	..	2	3
	746	304	1050	1772

SOUTHERN STATES

	Kero.	No. 1	1949	1948
N. Carolina	3082	59	3141	2325
Florida	1386	74	1460	1662
Texas	1883	81	1964	2025
Georgia	1105	85	1190	1363
S. Carolina	1183	61	1244	956
Virginia	1530	98	1628	1096
Oklahoma	707	107	814	660
Arkansas	755	137	892	872
Tennessee	1137	51	1188	923
Louisiana	574	85	659	494
Alabama	505	25	530	561
Kentucky	356	2	358	446
Mississippi	358	11	369	419
W. Virginia	191	2	193	90
	14752	878	15630	13892

TOTAL UNITED STATES

	Kero.	No. 1	1949	1948
U. S. Total	66244	12279	78523	84163

1949 fueloil Consumption, United States Bureau of Mines

SALES OF BOTH light and heavy fueloil declined nominally in 1949, compared with 1948, while the market for kerosene was considerably lower, according to a survey of distributors' deliveries made by the Petroleum and Natural Gas Branch, Fuels and Explosives Division, Bureau of Mines, United States Department of the Interior.

Demand for light heating oils, grades 1 to 4, dropped in 1949 for the first time since 1943 and 1944, or when supplies were rationed. The 5% decline from 200,024,000 barrels in 1948 to 190,387,000 in 1949 was attributed largely to a warmer season and partly to the lower consumption of newer burners. Conversely, there was a small gain in demand for heavy heating oils, grades 5 and 6, which totaled 60,414,000 barrels in 1949 and 58,639,000 in 1948. Low prices for residual burning oils in 1949 and interruptions in the coal supply both were factors in increasing the demand.

Nearly 60% of light heating oils are sold in the East Coast area, and there the total declined 5% from 118,445,000 barrels in 1948 to 112,062,000 last year. In the North Central States, where 25% of the sales are reported, quantity dropped less than 2% from 49,151,000 barrels in 1948 and 48,360,000 in 1949. On the Pacific Coast requirements dropped 5% to 20,347,000 barrels from a 1948 total of 21,484,000.

Except on the West Coast and in New England all sections reported larger sales of heavy heating oils. In the California marketing area demand was 20% lower to 6,841,000 barrels in 1949 and in New England it dropped slightly from 13,853,000 barrels in 1948 to 13,644,000 in 1949. For the East Coast, where about 65% of the heavy heating oils are sold, there was a small net gain from 38,134,000 barrels in 1948 to 39,003,000 last year and in the North Central States demand was up from 9,296,000 barrels in 1948 to 9,885,000 in 1949. Requirements in the South Central states also increased noticeably from 2,646,000 barrels in 1948 to 4,318,000 in 1949.

No. 1 fueloil sold for range burner fuel declined from a 1948 total of 12,534,000 barrels to 12,279,000 in 1949 and kerosene was lower by 6%, 70,629,000 barrels in 1948, 66,244,000 in 1949.

In New England, where about a third of range oil sales are made, sales declined 13% to 25,040,000 in 1949 and in the Middle Atlantic area, 1949 deliveries of 18,886,000 barrels were 12% below the 1948 sales of 21,472,000. Last year sales in the North Central states remained virtually the same, 17,498,000 compared with 17,766,000 in 1948. The only two regions to record gains in range oil sales in 1949 were the South Central and South Atlantic States, where 1949 deliveries in the former area totaled 7,193,000 barrels and 7,055,000 in 1948 and in the latter section 1949 totals of 8,856,000 compared with 7,492,000 barrels delivered in 1948.

Fueloil Sales 1945-49, by Uses

(In Millions of Barrels)

DISTILLATE 1945	1946	1947	1948	1949	USES	RESIDUAL 1945	1946	1947	1948	1949
121	140	178	200	190	Heating	44	50	56	59	60
7	8	12	14	12	No. 1 Sold As Range	..	..	..	..	..
14	18	24	31	39	Railroads	112	100	98	90	63
14	12	14	15	13	Vessels	100	88	102	96	89
7	11	14	15	13	Utilities	35	51	61	57	80
19	21	24	30	26	Industrial	91	99	115	118	123
1	2	2	4	4	Oil Company Fuel	57	58	63	57	56
30	9	5	9*	6	Armed Forces	97	36	19	25	23
17	19	24	25	26	All Other Uses	5	5	7	7	4
230	240	297	343	329	Total United States	541	487	521	509	498
33	29	30	21	12		12	9	11	13	13
263	269	327	364	341	Total	553	496	532	522	511

*Revised.

Heating Oil Sales
By Grades and by States
Official U. S. Bureau of Mines Figures
(Thousands of 42-gallon barrels)

NEW ENGLAND STATES

1949				Total Distillate			1949		Total Residuum		Grand Total	
No. 1	No. 2	No. 3	No. 4	1949	1948	1	No. 5	No. 6	1949	1948	1949	1948
1,201	14,535	102	80	15,918	17,066	Massachusetts	1,388	5,720	7,108	8,071	23,026	25,137
807	6,631	102	41	7,581	8,443	Connecticut	1,910	2,340	4,250	3,968	11,831	12,411
106	2,754	16	10	2,886	3,007	Rhode Island	224	1,547	1,771	1,510	4,657	4,517
154	1,344	21	..	1,519	1,130	New Hampshire	21	180	201	97	1,720	1,227
231	1,750	5	2	1,988	1,840	Maine	76	187	263	137	2,251	1,977
77	741	16	..	834	661	Vermont	8	43	51	70	885	731
2,576	27,755	262	133	30,726	32,147		3,627	10,017	13,644	13,853	44,370	46,000

MID-ATLANTIC STATES

No. 1	No. 2	No. 3	No. 4	1949	1948	2	No. 5	No. 6	1949	1948	1949	1948
2,271	29,982	2,251	328	34,832	34,561	New York	2,411	9,510	11,921	12,265	46,753	46,826
1,497	16,057	1,570	197	19,321	20,992	New Jersey	2,118	4,802	6,920	5,865	26,241	26,857
1,017	10,318	513	41	11,889	13,838	Pennsylvania	1,412	1,964	3,376	4,174	15,265	18,012
474	5,562	60	..	6,096	6,981	Maryland	181	681	862	753	6,958	7,734
93	1,690	..	1	1,784	2,235	Dist. of Col.	96	649	745	575	2,529	2,810
133	751	..	..	884	735	Delaware	82	136	218	80	1,102	815
5,485	64,360	4,394	567	74,806	79,342		6,300	17,742	24,042	23,712	98,848	103,054

MIDDLE WESTERN STATES

No. 1	No. 2	No. 3	No. 4	1949	1948	3	No. 5	No. 6	1949	1948	1949	1948
1,661	5,654	3,329	9	10,653	12,677	Illinois	2,751	2,083	4,834	4,898	15,487	17,575
1,720	4,640	1,190	31	7,581	7,212	Minnesota	329	140	469	297	8,050	7,509
2,738	4,701	1,065	109	8,613	7,598	Michigan	815	1,081	1,896	2,059	10,509	9,657
740	1,787	861	106	3,494	4,639	Missouri	974	507	1,481	2,132	4,975	6,771
928	3,300	933	26	5,187	5,123	Wisconsin	305	245	550	785	5,737	5,908
1,099	2,664	249	1	4,013	3,496	Iowa	201	54	255	91	4,268	3,587
928	2,159	248	32	3,367	3,748	Indiana	355	430	785	597	4,152	4,345
902	664	404	5	1,975	2,236	Nebraska	127	70	197	86	2,172	2,322
1,887	1,191	667	371	4,116	4,677	Ohio	329	233	562	246	4,678	4,923
324	562	79	..	965	805	South Dakota	11	9	20	25	985	830
392	432	34	7	865	951	Kansas	376	152	528	159	1,393	1,110
290	600	72	..	962	553	North Dakota	4	..	4	12	966	565
13,609	28,354	9,131	697	51,791	53,715		6,577	5,004	11,581	11,387	63,372	65,102

WESTERN STATES

No. 1	No. 2	No. 3	No. 4	1949	1948	4	No. 5	No. 6	1949	1948	1949	1948
3,464	..	3,261	..	6,725	7,396	California	2,791	488	3,279	4,369	10,004	11,765
4,622	..	3,539	..	8,161	8,219	Washington	2,025	328	2,353	2,532	10,514	10,751
2,150	..	2,228	..	4,378	4,515	Oregon	1,032	74	1,106	1,545	5,484	6,060
230	..	338	..	568	677	Nevada	65	12	77	65	645	742
308	..	207	..	515	677	Arizona	23	3	26	23	541	700
232	325	90	1	648	719	Colorado	33	76	109	1	757	720
660	225	72	13	970	1,007	Idaho	69	13	82	5	1,052	1,012
201	63	199	50	513	583	Utah	28	29	57	..	570	583
290	244	43	..	577	541	Montana	30	65	95	13	672	554
49	172	19	1	241	243	Wyoming	13	9	22	10	263	253
35	58	5	..	98	128	New Mexico	1	1	2	..	100	128
12,241	1,087	10,001	65	23,394	24,705		6,110	1,098	7,208	8,563	30,602	33,268

SOUTHERN STATES

No. 1	No. 2	No. 3	No. 4	1949	1948	5	No. 5	No. 6	1949	1948	1949	1948
442	1,802	15	3	2,262	2,624	Virginia	43	165	208	173	2,470	2,797
181	737	143	..	1,061	1,222	Florida	172	275	447	339	1,508	1,561
282	925	464	..	1,671	1,591	N. Carolina	21	17	38	..	1,709	1,591
93	182	28	3	306	299	Louisiana	242	260	502	84	808	383
207	420	91	..	718	837	Georgia	205	289	494	48	1,212	885
281	645	35	48	1,009	1,081	Texas	834	470	1,304	211	2,313	1,292
53	460	115	..	628	578	S. Carolina	18	2	20	7	648	585
93	288	44	62	487	618	Kentucky	25	111	136	69	623	687
46	64	5	..	115	80	Arkansas	110	148	258	5	373	85
54	129	1	..	184	129	Oklahoma	126	60	186	18	370	147
145	334	7	..	486	463	Alabama	12	42	54	35	540	498
82	335	24	..	441	408	Tennessee	12	165	177	131	618	539
25	144	20	1	190	104	W. Virginia	75	35	110	2	300	106
41	67	4	..	112	81	Mississippi	1	4	5	2	117	83
2,025	6,532	996	117	9,670	10,115		1,896	2,043	3,939	1,124	13,609	11,239

TOTAL UNITED STATES

No. 1	No. 2	No. 3	No. 4	1949	1948		No. 5	No. 6	1949	1948	1949	1948
35,936	128,088	24,784	1,579	190,387	200,024	U. S. A.	24,510	35,904	60,414	58,639	250,801	258,663

Progress in warm air Heating

Part I of a Series on new Developments, principally radiant Applications

by
Robert C. Ring

WARM AIR FOR heating of homes, schools, churches, hospitals, offices, stores, or most any type of building offers a wide latitude in the selection of a heating system for a particular application. Depending upon the requirements of the job such as installation cost, operating cost, occupancy, desired thermal environment, physical nature of the structure, location, climate, etc., a warm air system can be developed which will afford an excellent solution to almost any heating problem.

The types of warm air systems may be classified, generally, as 1, radiant heating, wherein the room or space is heated by a combination of radiation and convection from a heated surface such as a floor, wall or ceiling panel; 2) convection heating, wherein the room or space is heated by the circulation (either gravity or forced) of heated air through the room or space; or some combination of these two.

Within the broad framework of these general systems, the basic ingredients such as equipment, ductwork, grilles, controls, supply air, return air, exhaust air, fresh air and the distribution and direction of air flow can be assembled into a great number of specific heating systems.

Early radiant Heating Methods

Radiant heating with hot or heated air represents one of the early attempts by man to improve the thermal environment within his buildings beyond the limited possibilities of an open fire or fireplace. These early systems consisted of spaces, flues or passages in floors or walls through which the hot products of combustion from the fire were passed, heating the wall or floor surface which in turn transmitted heat into the space by both radiation and convection. Present practice has largely done away with the use of combustion products as the direct medium and in its place, air heated by energy exchange between the combustion process and the air, and free from combustion products, is utilized.

The heated air is used in various ways. The air can be forced through passages in the floor, wall or ceiling or a combination of them and returned to the heater, thus supplying heat to the space by radiation and convection from the heated surface or panel. Or, instead of returning directly to the heater, some or all of the heated air can be introduced into the room to provide a tempered ventilation air supply or to make up additional heat loss beyond that obtainable from the heated surface without exceeding safe surface temperatures.

This latter method has the advantage of permitting a lower heat output from the heated surface and, consequently, a lower surface temperature. When combined with the forced circulation of air through the room this improves the system response and reduces the thermal lag of the radiant panel.

Circulating warm air systems have, of course, been the most widely used for warm air heating and with increasing emphasis on forced circulation in place of gravity circulation. All such systems are basically the same, differing only in details such as running of ductwork, types and placement of grilles, zoning, controls, etc.

In recent years considerable work has been done in the design of components to improve air distribution and diffusion and to utilize the heated air to reduce the adverse effect of cold outside walls and large glass areas. This is done by directing the air over these surfaces to raise their temperature and thus reduce the radiation loss from the room occupants to the cold surface.

This tempering of cold surfaces is particularly important in cold climates. An interesting and effective method of tempering is the development of a patented warm air baseboard constructed of sheet metal with a continuous slot at the top from which the heated air is directed up the wall. The unit is installed primarily along outside walls at the floor in place of the usual wood baseboard and connected to the supply ductwork. A number of grilles are now available which have a discharge pattern that fans the air out nearly parallel with grille face thus permitting air flow across the surface in which the grille is mounted. For large window areas, an effective method is the use of grilles located horizontally in the window ledge or sill and discharging vertically up across the window.

Variation of circulating System

A variation of the circulating warm air system is an arrangement of supply ducts under the floor along outside walls wherein some heat is extracted from the supply air by conduction into the floor to heat the floor above the duct and thereby temper to some extent the adverse effect of outside walls. This system is known as perimeter heating and considerable test and design data is now available for its application to residential work.

For radiant heating with warm air, the floor, generally of concrete, has been the most commonly used portion of the structure for several reasons. A warm floor is generally desirable for

Fig. 1. *Three inch ducts branching from formed concrete supply main.*

comfort. Most building codes require that heated air be passed through ducts or spaces constructed of incombustible materials or if combustible materials are present the ducts must be suitably insulated or isolated from these materials. Cost is usually less than wall or ceiling panels since concrete floors are economical and lend themselves exceedingly well to the purpose.

Many methods have been used to form air passages in floor construction. One method employs a thin initial concrete slab on which bricks or other incombustible spacers are placed in a pattern that will direct the air back and forth across the slab. These spacers are then covered with corrugated iron which serves as a form for the pouring of a second thin concrete slab. This second slab becomes the floor surface with rectangular passages between it and the bottom slab.

A second method uses hollow tile or concrete block or shapes which are placed on the initial slab to form a suitable air passage pattern and then covered with the finish slab.

A third method involves the use of a patented sheet metal, formed shape which is placed on the initial slab in end to end fashion, with clips to fasten the various pieces together and then covered with the finish slab. The shapes are four-sided to permit forming passages in all four directions and are so constructed that a supporting column of concrete between the upper and lower slabs is formed on 12 inch centers in all four directions.

Ducts imbedded in floor Slab

A fourth method, one that will be further discussed and illustrated, consists of small diameter, light gauge, galvanized iron leader pipe imbedded in the floor slab and run across the floor from one side to the other. In this last arrangement, the floor slab can be formed in a single pour, the other arrangements require two pours.

In all of these ducting arrangements, the formed passages are connected at one end or ends with the underfloor formed concrete supply main which in turn is connected with the heat source. In systems wherein the air, after passing through the floor, is returned in whole or in part to the heat source, a second main is provided connecting to the other end or ends of the passages for return of the air. If all or part of the air enters the room after passing through the floor, this air returns to the heat source in similar fashion to that of conventional systems.

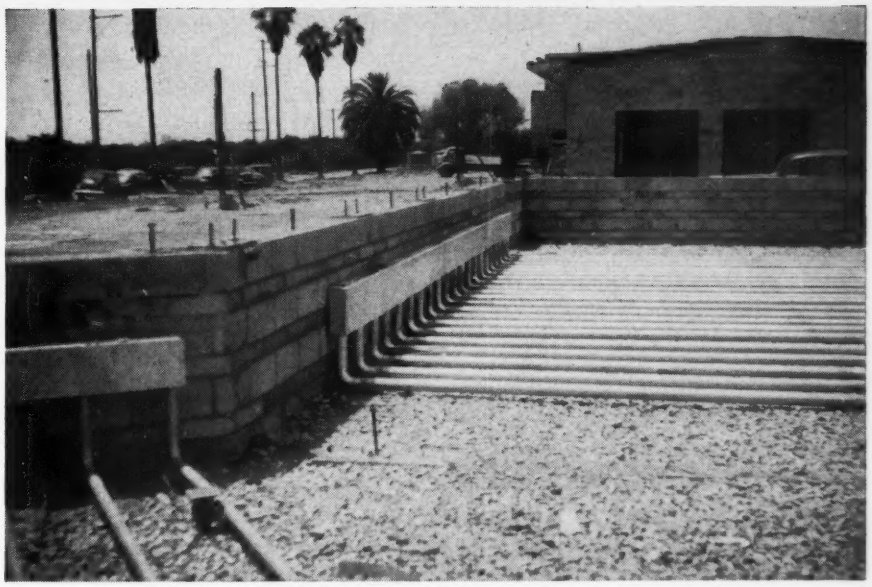


Fig. 2. *Ducts rising into a galvanized iron header box.*

Depending upon the type of structure, the need for ventilation air and the climatic conditions, a system can be developed wherein all of the air is passed through the floor and back to the heat source forming a radiant panel; or wherein some or all of the air enters the room after passing through the floor to provide ventilation; or wherein some air is passed through the floor only and some air introduced into the room only.

The first arrangement is limited to climates mild enough so that all of the heat loss can be equalled by the radiant panel output; the second arrangement is desirable to provide tempered ventilation air supply and to minimize the thermal lag effect of the panel; and the third arrangement is especially suited to cold climates where additional heat loss must be offset beyond that obtainable from the panel. The second arrangement may also be used for cold climates, although it is less flexible than the third.

Ground preparation or slab insulation for warm air radiant systems is the same as required for hot water radiant systems. In cold climates, insulation under the slab and breaker strips between the slab and footings are necessary to reduce panel losses. In mild climates neither insulation nor breakers are necessary, although the breaker strip is desirable to reduce conduction loss through the end of the slab.

Wall and ceiling radiant Panels

Successful installations have been made using walls or ceilings or both as radiant panels. The heated air can be ducted into walls or ceilings which have baffles to distribute the air throughout the space, provided that these spaces are constructed of incombustible materials. It is entirely possible to pass the heated air up through outside walls, across through the ceilings and down through interior walls back to the heat source, but the cost of construction of walls and ceilings to permit this arrangement is likely to be excessive.

It is, of course, feasible and relatively easy to obtain perimeter radiant effect by running supply ductwork through the ceiling space along outside walls, the heated air then being introduced into the rooms through grilles in the usual fashion. In this arrangement, it is desirable to have the bottom surface of the supply duct as close to or in as intimate contact as possible with the ceiling plaster.

A number of installations have been made using 3 inch diameter galvanized iron ducts, fabricated from ten foot

lengths of stock material, imbedded in the concrete floor slab. Bends are made with standard prefabricated elbows, and all joints are soldered to prevent water from the concrete from entering the ducts. Figure 1 shows the 3 inch ducts starting out from the formed concrete supply main which main is covered with corrugated iron to serve as a form for pouring the floor slab over. The 3 inch ducts project through holes in the corrugated iron into the supply main and the ducts are caulked with mastic where they pass through the iron cover to prevent water from the concrete from entering the supply main.

Header Box and Grilles

Figure 2 shows the 3 inch ducts at the opposite side of the room rising into the galvanized iron header box. The header box is on the north, or cold, wall of the room and is concealed by furring with outlet grilles at 4 foot intervals on the horizontal ledge. The grilles are connected to openings cut into the top of the header box. In this installation, the heated air makes a single pass through the floor, approximately equal amounts through each duct, and all of the air is discharged into the room vertically up across the windows.

Figure 3 shows a typical, formed, underfloor, concrete supply duct or main; the two approximately square openings in the right foreground extend through the floor for connection to the heated air supply. This particular building has two zones, hence the separation between the two ducts.

Figure 4 shows the underfloor supply main covered with the corrugated iron which serves as a form for the floor slab. The sheets should be run preferably with the corrugations across the duct instead of parallel with it for maximum stiffness, although in this instance no serious difficulty was encountered when the floor was poured.

Figure 5 shows the actual pouring of the concrete over the three inch ducts. On this job the reinforcing mesh was placed over the ducts; other installations have been made with the mesh under ducts. Either way is satisfactory insofar as the heating is concerned and the ducts and mesh should be wired together to make a secure assembly. It has been found that if reasonable care is exercised, the ducts are not permanently deformed during the pouring operation. With 3 inch ducts an over-all slab thickness of 6 to 7 inches is used with the ducts worked into the center of the slab or at least so that they are entirely surrounded by the concrete.

Figure 6 shows a typical room after the pour is completed. On this job the floor will be finished with asphalt tile, but linoleum, rubber tile, carpeting, wood, terazzo, etc., may be successfully used also.

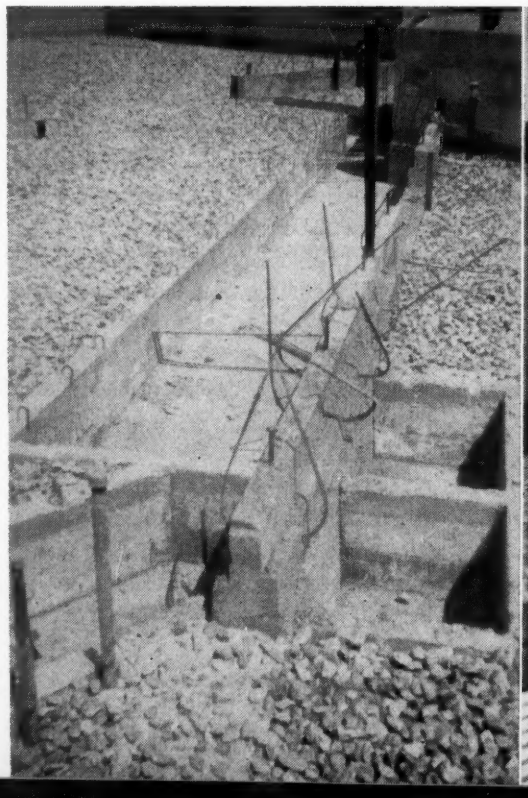
In the installation pictured, the ducts are spaced on 16 inch centers. Other spacings and duct diameters are possible, and if more heat input to the floor is desired closer spacing is necessary. The air velocity through the 3 inch ducts is approximately 1000 feet per minute which value has been found to be a good compromise between excessive pressure drop with higher velocity through the ducts and slow system response with lower velocity through the ducts.

On systems where it may be necessary to keep the total static resistance to a minimum, a lower velocity of 700 to 800 feet per minute may be used without slowing the system response too much for most applications. With closer spacing, smaller ducts in the floor slab would be preferable so that the velocity would not be too low. Assuming or determining any two of the three factors—total room air flow, duct diameter and total number of ducts per room (which also establishes duct spacing)—the remaining one can be obtained by using the average duct velocity value.

Fresh and return Air

With two exceptions, the several installations of this system completed or under construction have utilized 100% fresh air which air is heated, passed through the floor ducts and discharged into the room thus providing a tempered floor and a tempered ventilation air supply. One installation utilizes 50% fresh air and 50% return air and is otherwise the same. Another, located in a moderately cold area with a design outdoor temperature of 0 degrees, utilizes aproximately 20% fresh air and the balance return air. As before, the mixture of fresh and return air is heated, passed through the floor ducts and discharged into the room.

In mild climates the use of all outdoor air passed through the floor and then into the room makes a simple and effective system. In moderately



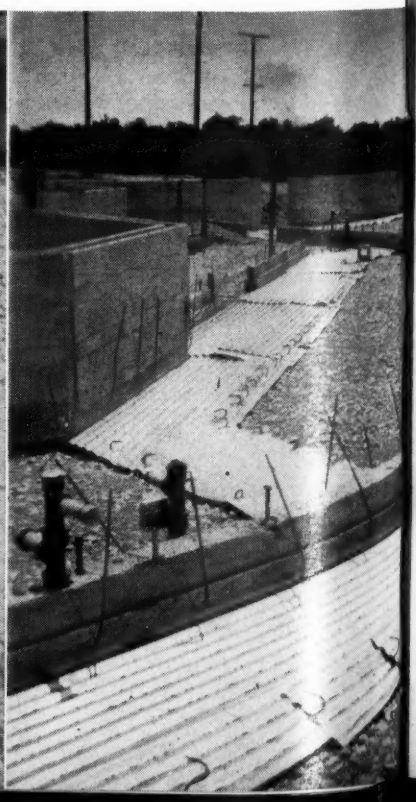


Fig. 3. *(left) A typical, formed, underfloor concrete supply duct.*

Fig. 4. *(right) Underfloor concrete supply duct covered with corrugated iron. This serves as a form for the floor slab.*

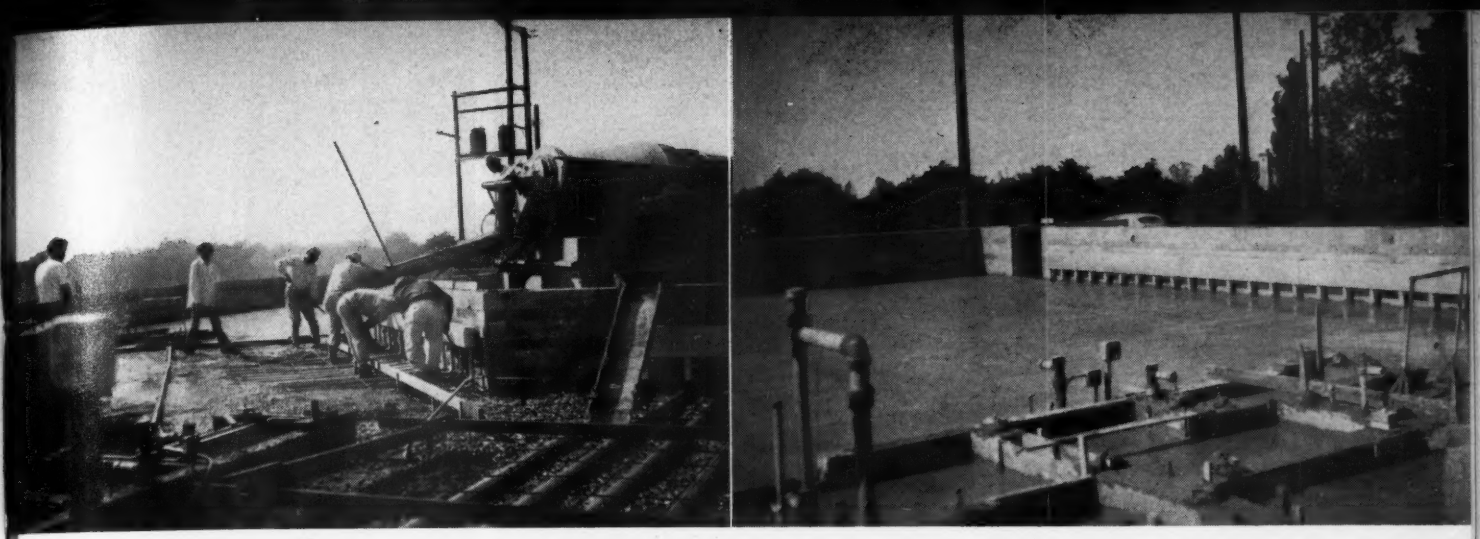


Fig. 5. *(left) Pouring concrete over the three inch ducts.*
Fig. 6. *(right) Typical room after the pouring has been completed.*

cold climates the use of a small percentage of outside air combined with the return air and the mixture passed through the floor and discharged into the room is satisfactory as is an arrangement with some of the air, after passing through the floor, discharged into the room and rest returned directly to the heat source.

In cold climates, where only a portion of the total heat loss can be made up by the floor panel, the most effective system utilizes a split in the heated air supply, part passing through the floor and returning to the heat source and the balance introduced into the room directly without passing through the floor. The exact split between the two air flows will depend upon the requirements of the particular job; but a reasonable amount of adjustment, after installation, is possible by varying the air flow through the floor to obtain the desired floor surface temperature.

It is advantageous, in mild climate installations, to keep the average floor surface temperature within a few degrees above the room air temperature to avoid the overshooting which occurs because the thermal lag of the floor is slower than the possible, and frequently occurring, rate of rise of outdoor temperature to the point at which heating is no longer required. In cold climates, the rise in outdoor temperature during the day is usually still below the point at which no heat is required so that it is possible to maintain a floor surface temperature of 80 to 85 degrees and thereby obtain maximum or near maximum output from the floor panel. The balance of the heat loss as well as tempered ventilation air is furnished by the direct air supply.

In any warm air heating system it it important to design as much initial balance into the air flow and distribution as possible due to the difficulty of using dampers below the floor slab or in wall or ceiling passages. Individual panels should have as uniform an air flow throughout their passages as possible to obtain reasonably uniform surface temperatures. Supply mains, in general, should be designed for low air velocity so that their pressure drop is low compared to that of the ducts and so that they will function essentially under static pressure with conversion to velocity pressure in the individual ducts or passages.

Uniform air flow Pattern

In this way, and with a symmetrical passage pattern, the air flow will of itself be sufficiently uniform. Individual panels or zones can be adjusted for total air flow at the source, and a sufficient amount of final balance can be obtained at the grilles.

Grilles used to introduce the air into the room will, in general, be of types and at locations used in conventional systems with consideration given, however, to tempering cold walls or windows. Where the air is introduced into the room after passing through the floor, low wall or ledge mounted grilles are preferred, but care must be exercised to diffuse or spread this air to avoid possible drafts since the air temperature will at times be close to room temperature. Where air is introduced into the room directly from the heat source, either high wall or low wall or ceiling discharge is satisfactory depending upon factors peculiar to the installation.

The next article will describe and discuss, with illustrations, a number of other warm air heating systems—some completed, some under construction and some in the design stage.

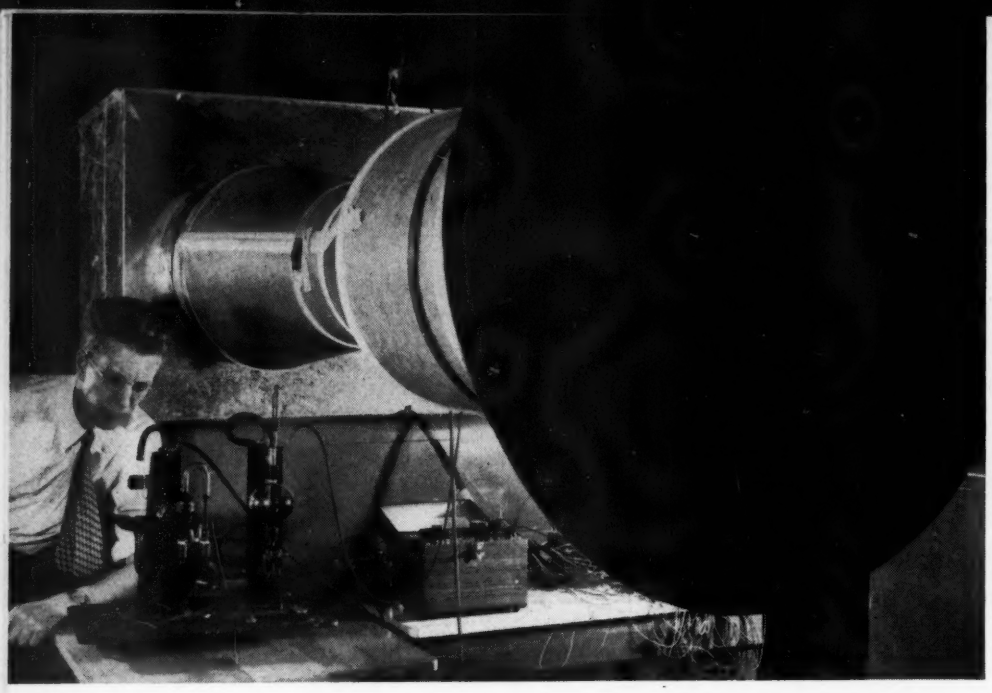
❖

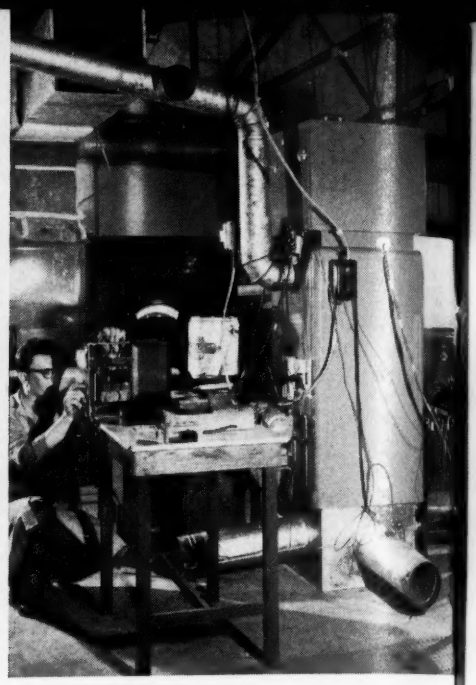
Want new Proposals for New England gas Pipelines

THE FEDERAL POWER COMMISSION has called for new proposals to make natural gas available to New England, contending that neither the Algonquin proposal submitted by Texas-Eastern, nor the Northeastern, submitted by Tennessee Gas, would serve the public interest. The Commission maintained that both have proposed to serve only a few distributing companies and not the entire area.

Commissioner Buchanan entered a dissenting vote, saying that a start should be made now to provide New England with natural gas. Urging approval of the Northeastern project, he pointed out that it would bring gas to some communities by July of next year and possibly all of New England by the end of next year.

Algonquin, meanwhile, announced it is ready to serve a part of New England with a two-system plan worked out by FPC's staff, join with Northeastern in a single distributing company or expand its own project to serve all of New England.





Men in Delco-Heat Lab Seen through the Lens

THE LABORATORY utilized by the men who test Delco-Heat units, made by the Delco Appliance Division of General Motors Corp., Rochester, New York, grew so in the past two years that it finally was necessary to move into a new and larger building at the beginning of this year. The main reason for the bustling activity was the development of new heating units, each of which was tested extensively before being released for distribution.

The picture at the upper left hand of this page depicts an efficiency test being given an oil furnace by John W. Thomson. Air flowing through the furnace is measured by instruments inside the projecting venturi tube.

Alongside, in the upper right hand corner, a Counterflow oil furnace is being put through its paces by Charles H. Webber, left, and Mr. Thomson. This unit is designed for basementless or ranch types homes built on a concrete slab and features a blower located on top of the heat exchanger. When installed its round ducts would be buried under the floor.

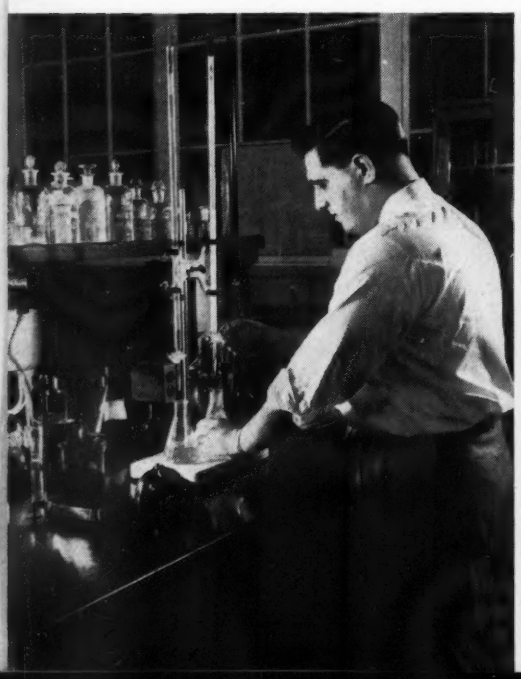
Across the bottom of the page other activities in the Delco Appliance laboratory are illustrated. Here even chemistry is brought into the furnace tests. Pete Bovenzi, in the picture at the lower left, is working with a zinc plating solution similar to the ones used in the plating of many furnace parts.

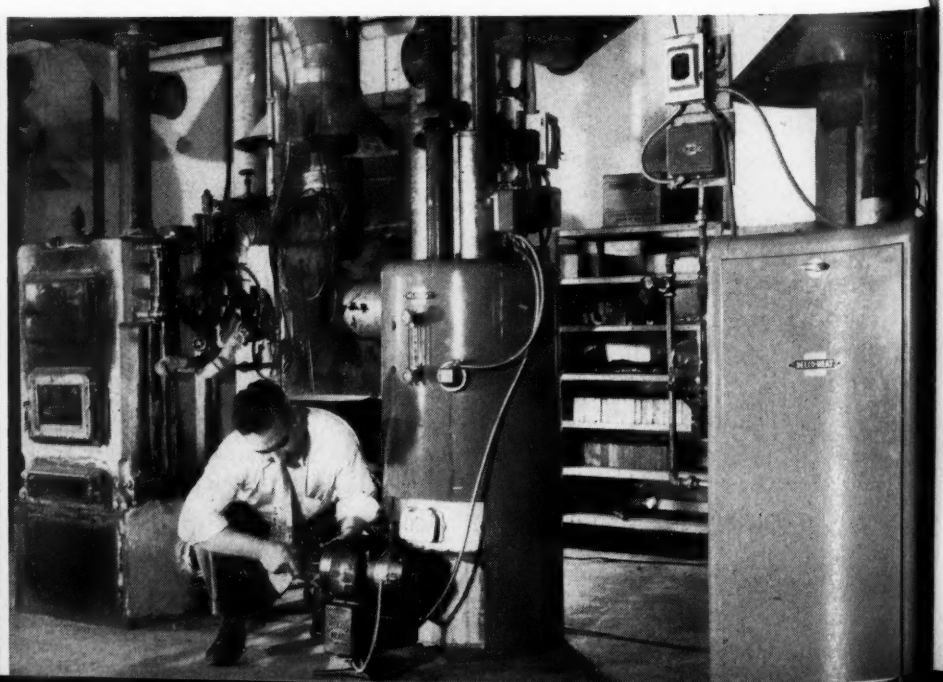
Samuel J. Carlisi is installing an oil-burner in a Delco boiler in the picture alongside. Three boilers visible in the picture, all undergoing tests, are but a few of the domestic heating units that are observed under actual conditions.

Both oil and gas units are examined, along with conversion burners, so that performance data can be correlated for all. Then too, the operation of gravity and forced circulation furnace-burner units are observed to collect valuable data on both types of systems.

The pictures reproduced here first appeared in the September issue of *G-M Folks,* the corporation magazine, which is distributed to its personnel.

Explaining that much of the testing work in the laboratory is done during the summer months, the magazine pointed out that the hot work . . . "means a lot of homes will be more comfortable when the cold winds begin to howl this winter."





Useful Ideas by the Dozens

First Batch of Ideas that came close to winning Prizes in Contest

THE WINNING IDEAS of this magazine's Useful Ideas Contest appeared in the October issue of FUELOIL & OIL HEAT. Now that the takers of the $1000 in cash awards have their prizes and congratulations, it's time to honor others who sent good ideas in to the contest but did not quite rate a first, second, or third prize.

The authors whose names and addresses appear in this article receive the honor and recognition of seeing their ideas in print, and many of them may regard this as the most important outcome of their entering the contest. However as a by-product of the success of each of these men, his wallet will be fattened or his pourboire or Trinkgeld enlarged, because each man whose name is given in this article receives payment at the rate of three cents for each of his words which is printed, or a minimum payment of five dollars. Additional ideas will be published in future issues of the magazine, and similar payments will be made to those who submitted the ideas before the contest closed on August 31.

Some ideas sent in for the contest did not come up to the contest rules, in that they were not original and useful to other oilheating men. For example, no award goes to the man in Medford, Mass., who hopefully suggested adding contacts to a gauge on a 275-gallon tank, to turn on the door bell when only 50 gallons of oil is left in the tank. There's nothing new in the idea of gauges equipped with alarm switches and switches to turn off burners when the oil gets low, before the burners air-bind. Low water controls have been hooked to the bottoms of 275-gallon tanks to do the same thing.

There's an entry from Pennsylvania suggesting that nozzle plugging, expense, and service calls are related to installations having only standard screen type pump and nozzle strainers. The author's original idea is that a good, cartridge-type oil filter should be installed near the oil tank of a trouble job. Original? How about that?

No clear way could be found to giving an award to a service man of North Billerica, Mass., although his six-page handwritten letter made a Saga of Service. It all came out that a job lost its prime because a fuel unit was used with a return line while set up with the bypass port open suitable for only one-line operation. Too bad, but nothing new to that headache!

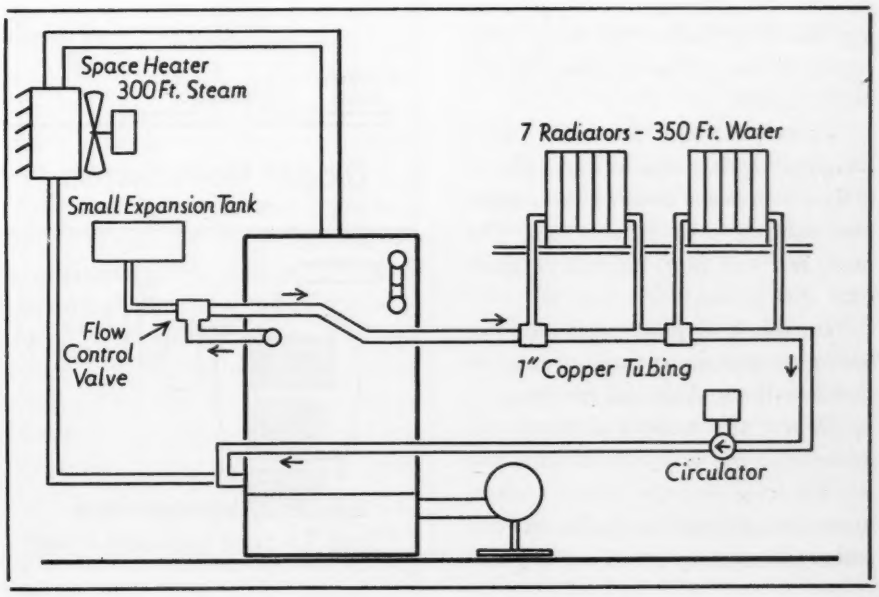
Leisurely and frenzied dissertations on the intricacies of combustion were sent in as entries, one expounding that carbon monoxide can be ignited and is generated or cracked from atomized fueloil by the addition or presence of radiant heat, and another explaining that a more solid theory of combustion is based on understanding that excess air increases flame temperature. The author of the second thesis expounds that in classrooms the idea of excess air decreasing flame temperature has become more prevalent and is, in fact, still being taught. Out of respect for the instructor, this thesis goes on, the service man usually decides to accept this rather than bring out an argument when he himself is not too sure of his grounds. No awards came of reading entries like these. Instead came some wondering about who instructs in a classroom, the instructor or the service man. Also came sorrow that that bible of combustion, "Fuels and Their Combustion," by Haslam and Russell, can't be bought at every book shop and put into the hands of every service man who aspires to professorial certainty discussing combustion.

No award could be given to the entry from the West Springfield, Mass. enthusiast who says he is positive that running the fill lines of 275-gallon tanks steeply downhill, never horizontal, would eliminate all future blow backs or any causes of spills.

An excellent layout for a tank-type, summer-winter installation came in from Richmond, Va., but represents the best practice of many dealers and hasn't a thing original to it.

What about this entry? Original? Use lower than 90 or 100 lbs. fuel unit pressure and the next smaller size nozzle to reduce nozzle plugging. The contestant says the higher pressures often produce unsatisfactory combustion.

The contest proved certain service men can be prolific and voluminous in their writing. A few were apologetic about sending in six or eight ideas. They should know that one service



Anthony Walaity's *method of heating radiators with hot water and provide steam for a fan equipped space heater.*

man of Newark, N. J., seemingly determined not to miss a bet, sent in 25 separate ideas.

Here's a pay-dirt item by Anthony C. Walaity, 290 Madison Ave., Irvington 11, N. J.:

"The problem was to heat the radiators with hot water and the space heater with steam, using one boiler. To heat the radiators with steam was too costly, because of their height in relation to the boiler as shown in the sketch.

"An indirect water heater of sufficient capacity was tried, and also a tankless with poor results.

"Finally my suggestion was to use the boiler water to heat the radiators as shown in my sketch. This was very successful.

"The steam boiler has an automatic feeder. Five pounds steam pressure is raised in the boiler. The radiators are vented slowly. As boiler water fills them, the boiler feeder goes to work. An Aquastat runs the system except when the space heater needs steam."

Mrs. Lillian Wellen, 167 Centre Ave., New Rochelle, N. Y. sent this in:

"Oil spills cause many customer complaints. This device helps prevent 'burning' of lawns and staining of cement surfaces.

"Using the accompanying sketch, make two lidless boxes out of sheet tin, soldering joints to make them leakproof. Over-all dimensions are up to you, but the height is suitable for sliding the thing under the flange of a typical fill line. Solder the hinge shown in the sketch.

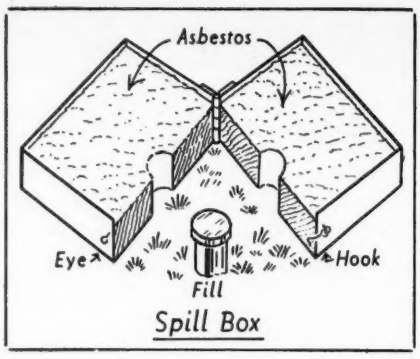
"Closed, the spill box looks like a doughnut with a square outer rim.

The hole in the center is of a diameter that fits a fill pipe snugly. The hook and eye lock the box securely once it is in use.

"Each half is filled with loose asbestos, tamped down firmly enough so that it will not shake out in transit.

"When you make a delivery, the asbestos in the spill box absorbs any oil that leaks or drips. After a while, dump out asbestos that has become oily and replace it.

"There are installations having fill boxes flush with the ground or imbedded in cement. It's impossible to slide your fill box in and under. Where possible, install a coupling and nipple to lengthen the line."



A suggestion *to prevent damage from oil spills, sent in by Mrs. Lillian Wellen.*

Another answer to the oil-spill problem is given by Fuel Oil Driver Elmer Brown, Dairy St., Midland Park, N. J. Here it is.

"An important part of my equipment is a lawn guard. This may sound like an expensive piece of equipment, but to be frank it's a simple funnel.

"Practically all my deliveries are to home owners. We have a number of outside tanks, some in driveways, but a large number in lawns.

"This funnel is made of heavy galvanized plate, and the spout at the bottom screws in the fill.

"Oil pumped in is bound to foam up. When the tank is almost full and the foam rises, it comes up in the funnel. Of course, by this time I have the nozzle shut off, and the oil separates out from the foam and goes back in the tank. The funnel catches any drip you get from the nozzle after it's been shut off.

"In our company, the use of this lawn guard is a Must.

"Needless for me to make a drawing, as my picture was on the front cover of the June issue of FO&OH using the guard."

This contest entry from Elmer Brown should be of interest to J. N. F., Baltimore, Md., whose question about the funnel appeared on p. 152 of the September issue of FO&OH.

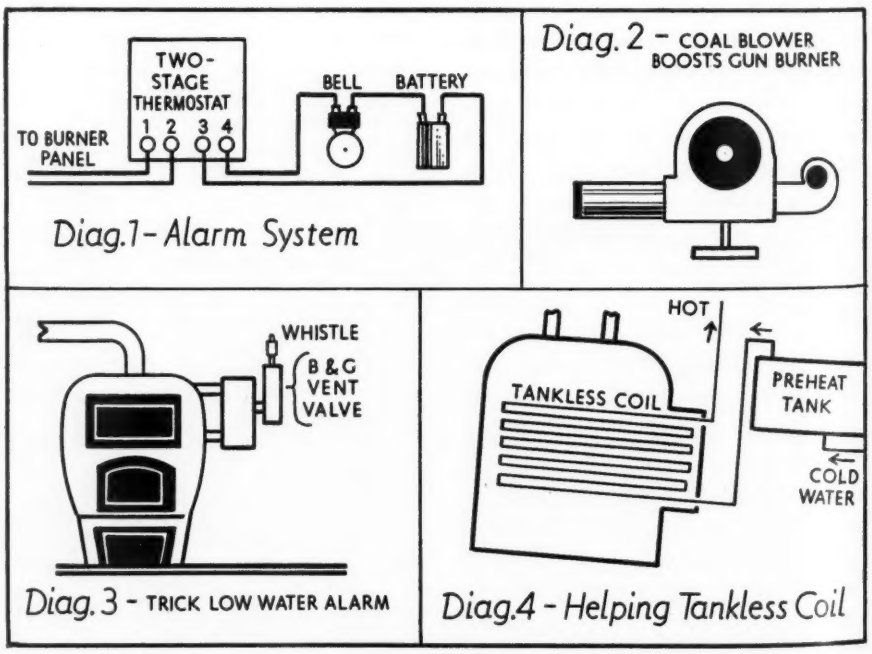
The accompanying diagrams show four ideas submitted by Francis Martin, of The Wm. R. Hogg Co., Inc., 900 Fourth Ave., Asbury Park, N. J.

"Diag. 1 shows the use of a two-stage thermostat on a greenhouse job. One stage operates the burner, the other connects to an alarm system which is battery-operated to be effective at times of power failure.

"I use this hookup on all greenhouse jobs," says Francis Martin.

"Diag. 2," he goes on, "shows using a coal blower to increase the gph capacity of a gun burner.

"I had a job with a gun type burner too small for the load. I had in the



Francis Martin's *contribution. Four ideas which he has used on actual installations in the field.*

burner the largest blower wheel it would take, but it still would not provide enough air for the size nozzle needed.

"Adding the coal blower to the back of the burner ,I could burn two gallons more per hour."

The trick's interesting, but it is a trick and it's not to be used at the drop of a hat, of course. Without a sail switch to give warning of failure of the added blower motor, and to do something about it, perhaps like shutting the burner off on safety, there might be trouble if the burner motor ran all right but the added blower motor failed to run. How about that?

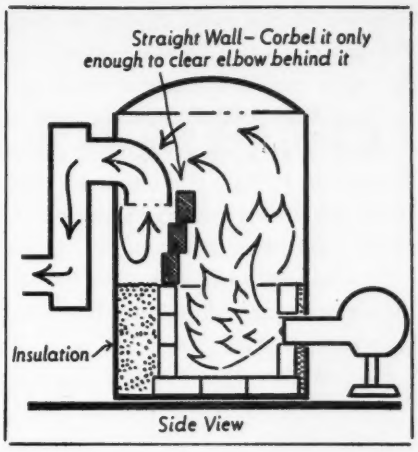
"This B & G #7 automatic vent valve in Diag. 3 is meant to be used for a hot water heating system," goes on Francis Martin. "I have used it on a steam job as an alarm to tell when the water was low in a steam boiler. The float drops, letting steam blow a special whistle that's been added to the vent valve. The alarm can be used with coal or oil firing."

Is more Protection needed?

The jobs that whistle should have the protection given by modern feeders and low-water controls, of course. Is additional protection needed? Do these jobs keep up enough boiler steam pressure at all times to blow the whistles? And of course there are good whistling devices, of construction and design likely to be pleasing to those interested in foolproof safety, made for high-pressure boilers which are attended at all times by men who will listen for the warning whistling. How about that?

According to Diag. 4, Francis Martin has *"used a tempering tank on a job with a tankless water heater, to cut down on operating costs. Place the tank over the smokepipe, and of course don't insulate it."*

Four additional ideas offered by the same Contestant Martin have to do with (1) making a control that stops a burner in 90 seconds if there is plus pressure in the smokepipe, (2) putting a thermal-delay type fuse on a job not previously equipped with one, to find out if the burner is going off on safety because of starting switch trouble in a split phase or capacitor-start motor, (3) using a two-stage thermostat to start one burner as a greenhouse chills, and to gain fuel economy by running this burner continuously when feasible and starting a second burner only when its operation is needed because the greenhouse temperature drops additionally, and (4) using an electronic remote control, made up for this by Mr. Martin's radio-specialist son, to find a proper location for a room thermostat; the trial thermostat is connected to a radio sending device and the burner has a corresponding receiving device wired to it, so that the room thermostat can start and stop the burner though not connected to it by wires. Not considered award-winning ideas, these last four items are listed here to give the extent of this contestant's inventiveness. Eight ideas like these from one contestant, and he's used all of them on actual installations. He didn't sit in his easy chair and dream them up! What about that?



Baffling *a coal-designed steel unit for efficient oilfiring, as outlined by Kenneth McLain.*

Next comes an idea on furnace baffling. Perhaps it's not 100% original in its downdrafting principle or travel-the-gases-farther idea, when you consider the old baffling articles that appeared in FO&OH and the instructions given out by certain equipment manufacturers But then this idea did not win a first prize. It is doggone good any way you look at it, however, especially in that it reflects on this man's efforts in the field to cut the oil consumption of actual installations by doing some well-planned baffling. The following baffling idea comes from Kenneth McLain, 218 S. Greenwood St., Kankakee, Ill.

"I have a method for baffling the typical coal-designed steel furnace, and my results in low stack temperature and oil economy surpass those of many oil-designed units.

"All the baffling is in the main drum of the furnace; none is in the radiator.

"In the outlet collar of the main drum where the radiator connects, install an elbow made of stainless steel, as this metal is necessary to withstand the high temperatures encountered. Installed to point down as my drawing shows, this elbow is the same size as the outlet collar of the main drum. Use cement at the elbow and collar connection to make a gas tight job. Most furnaces take a 9" or 8" elbow. Often I add a short piece of pipe to extend the lower elbow opening downwards another 2" or 3".

"Build a firebox of insulating firebrick, keeping it as close to the front of the furnace as possible. A square firebox is preferable, I find. Make the sides a standard height of 16. Make the back wall of the firebox so high that the top is 8" above the bottom of the stainless steel elbow you installed. This back wall extends from wall to wall of the drum above the regular firebox so that it divides the drum into about one-third behind the wall and two-thirds in front of the wall. To travel out of the drum, the products of combustion have to go over the top of this back wall; they can't short-circuit and travel around the ends of the back wall.

"Corbelling the back wall provides room for the elbow behind it.

"This baffling forces the hot gases to wipe completely the walls of the main heating drum, because the gases have to travel to the top of the drum to get over the wall. Next, the gases must travel downwards to enter the elbow. Then they flow up through the elbow to reach the flue passages or radiator. The design provides ample combustion space; there's small chance of pulsation trouble.

"This idea gives flue temperatures so low it is necessary to locate the stack control panel as close to the furnace smoke outlet as possible. Often it's best to insulate the inside of the fire door,

because otherwise the door itself may be damaged by the extreme heat on it.

"On a typical installation with a 27" steel furnace fired at 1.35 gph, the stack temperature was so low after I baffled the job that I had to remove the stack control from the smokepipe and put it on front of the furnace."

Notice, all you enthusiasts about high CO_2, low smoke readings, and fueloil savings, that Kenneth McLain gets at least part of his fuel savings by using (1) side walls a standard height of 16", (2) insulating firebrick for the regular combustion chamber, and (3) flame temperatures so high they make the firing doors red-hot unless these doors are inside-insulated. What about this business of the smokepipe being so cool the stack control had to be moved to the front of the furnace? Wouldn't you say that if the control is healthy, that means a smokepipe temperature lower than 300°? How about that?

An Idea from the West Coast

The West Coast boys sent lots of ideas in to the contest. Here's one from William G. Frahm, 627 33rd Ave., Seattle 22, Wash.

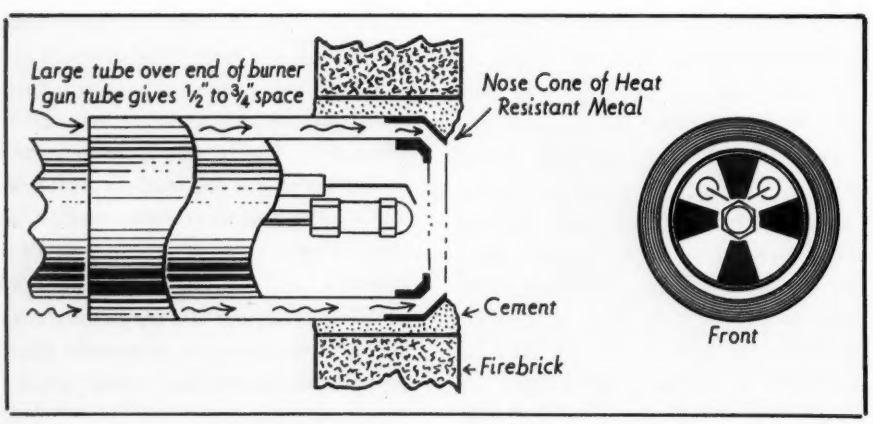
"This does much good for both high and low pressure burners that have failures caused by baking their nozzles, the baking being caused by heat reflected from the fireboxes, or by intermittent firing.

"Aside from that, it really works wonders for furnaces and boilers that flutter and pulsate.

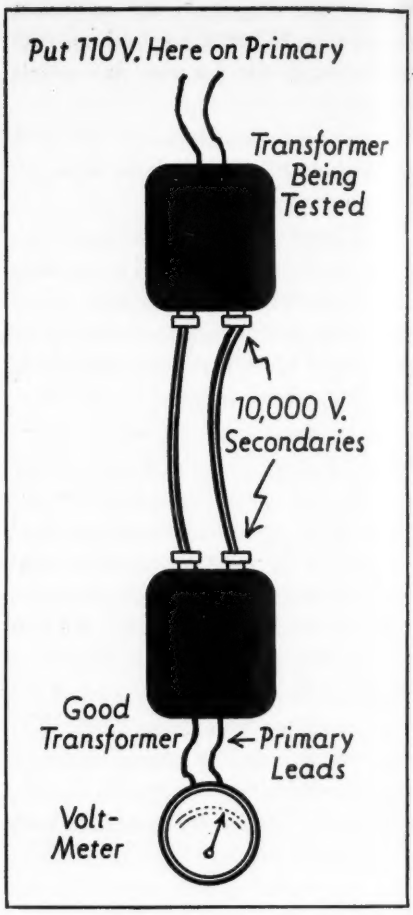
"The sketch shows a large tube you place around the regular gun tube of the burner, providing an air space of ½" to ¾". Use some kind of spacers between the two tubes. At the fire end, this space is open to the firebox. At the other end, it is open to the basement so that it lets in air under natural draft. Letting in this air keeps the nozzle cool, and that's one objective. The other objective is to help pulsating furnaces. The nose cone you fit on the large tube which you add to the burner should be made of heat resistant metal imbedded in plastic brick."

Plainly, William Frahm gives the flame secondary air by natural draft, and does this intentionally to end certain troubles he's been encountering. He's using a refinement over the idea of killing pulsation by providing a secondary air opening in the front wall of a firebox. It's all right if a fellow using this idea does not encounter a job that for one reason or another, perhaps poor chimney draft on cold starts or a jolt at lighting, pours smoke or products of combustion or oil odors out of the auxiliary air passage when the burner lights. Better control the smokepipe draft closely also, as otherwise much more secondary air will reach the flame when the job is hot (and does not need more air) than when the job starts cold, with low chimney draft. CO_2 readings and smoke readings, taken with the job starting cold and with the job hot after running steadily half an hour, would tell the whole story on that score.

Another idea submitted by William Frahm has to do with improving a well-known make of horizontal rotary cup burner by feeding its gas pilot (the gas pilot of the gas-electric ignition system, that is) some air under slight pressure, obtained from the blower housing of the burner. This is supposed to give a torch effect, make the gas flame much hotter and stronger, and be of particular help where expensive bottled gas is used for the burner's gas-electric ignition system. Certainly William F. has something there! His idea has been used for quite a while by the manufacturer of another make of horizontal rotary cup burner, who thinks the idea is swell. Well, a man can't be expected to know everything about every make and model of oilburner!



William Frahm's *idea for providing secondary air by natural draft.*



John Byrnes *uses this rig to check an oilburner transformer for proper voltage at the secondary.*

Testing an ignition Transformer

If you are electrically-minded, you'll go for this step-it-up, step-it-down trick in testing an ignition transformer, if you've got handy an AC voltmeter suitable for 110 volts. The following idea comes from John J. Byrnes, 79 Waydell St., Newark 5, N. J.

"To check an oilburner ignition transformer for proper voltage at secondary, use the idea in my drawing.

(Please turn to page 137)

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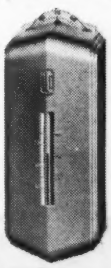

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OHI Directors act on materials Requirements; Curtin Retires

IMMINENT RETIREMENT of C. F. Curtin, for twenty years a member of the OHI staff in various positions and most recently as secretary-treasurer, was announced at the October meeting of the board of directors, Oil-Heat Institute of America, Inc. The meeting was held in the Lord Baltimore Hotel, Baltimore, Md., on October 15 and 16. A retirement-pension plan was established for Mr. Curtin, and it was revealed that Ralph Becker, managing director, will take over his duties, in addition to his own.

As a preliminary, the Oil Heat Association of Maryland, Inc., sponsored a cocktail party at the Lord Baltimore Hotel on Sunday evening, October 15.

Other business before the meeting included discussion of the necessity for appointing a committee to present the industry's materials requirements in Washington. The formula to be used in computing these requirements will be based upon 1950's estimated production of 850,000 units, plus a 22½% increase, an average figure, using as a base the homeowners' demand for oil-heating during the last "normal" years.

R. S. Bohn reported on completion of plans to publish the new "Oil Burner Handbook," which will be issued April 1. A plan was formulated to sell the books at a pre-publication price of $8.50 and at a price of $10 each after publication. The Handbook, compiled under the supervision of G. T. Kaufman, OHI's Technical Secretary and the Engineering Committee under Chairman Frank Faust, will contain 800 pages, with many illustrations, charts and diagrams, and will follow the general pattern of the Handbook prepared by Harry F. Tapp years ago for American Oil Burner Association.

Fenton Fisher, chairman of the Membership Committee, announced plans for a renewed and intensified campaign for members and presented the names of applicants for admission. The following all were accepted: Park Oil Burner Co., Atlantic City, N. J.; KO-Z-AIRE, Inc., Red Oak, Ia.; Klemm Automotive Products Co., Chicago; Overhead Heaters, Inc., Detroit; Rex-Roto Corp., Detroit and Plumbing and Heating Wholesaler, New York.

F. C. Haab, chairman of the Distribution Division, asked for renewed action to secure members and to emphasize the value of replacement sales. He advocated the use of contests and other promotion features to popularize the idea. T. A. Crawford reported on the progress of the public relations committee and asked for greater use of the OHI insignia in promotion and activity at dealer levels to offset the inroads of competitive fuels.

An interesting feature of the meeting was a talk by Milburn Petty, publisher of "Petty's Oil Letter" and author of the "Government Influences on

C. F. Curtin, secretary and treasurer, Oil-Heat Institute of America, whose retirement was announced at the Board of Directors meeting at Baltimore on October 16th, has been identified with the oilburner industry for 28 years and with the national headquarters since 1928. Prior to 1928 Mr. Curtin was in charge of collections at Socony Burner Corporation which eventually was taken over by the Timken Company.

Curtin's service with OHI has witnessed the gradual growth and influence of the industry dating from its initial efforts to gain public acceptance. He has played an active part in industry developments that were milestones in their day. Among them were the first promotional drive in the late twenties that was so successful in launching oil heat on a national scale; the series of oilburner shows and conventions culminating in the all-time event at Philadelphia last April; the introduction of Blue Eagle controls by the early New Deal under the Oil Burner Code Authority and the subsequent collapse of this venture; the three year industry battle for commercial standards which almost split the unity of OHI; the anxieties and problems of the defense program days in 1940-41; World War II, when the industry was shut down except for essential production and operated through the Oil Burner Industry Emergency Committee; the post war years that have witnessed a sustained revival of oil heat acceptance exceeding the best expectations of all authorities.

"I firmly believe," said Mr. Curtin, "that there are no real boundaries to the industry's growth and I'm convinced that the successive crises weathered for nearly thirty years are a normal expectation for the future, whatever their nature and provide the challenge for survival. The progress the oilburner industry has experienced could not possibly have been accomplished without a national trade association, to whose council tables have been attracted so many stable minds and disciplined intellects. Every reputable company serving this industry should regard it as a duty to become affiliated with the Oil-Heat Institute and share in the task of working out solutions to the problems that continually confront a successful industry.

"For my part I'm grateful for the opportunity I have had to participate in the work of the Institute. I have enjoyed the work and the association it entailed with members of all segments of the industry. All in all, the general memories I will keep of the last 28 years are pleasant and ones that I will cherish for a long time."

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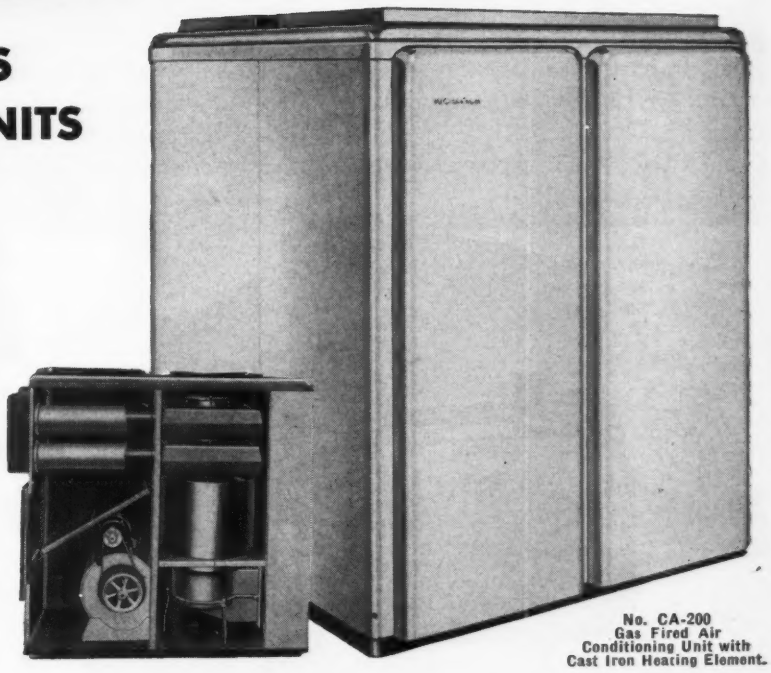

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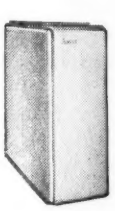

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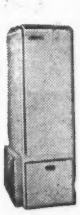
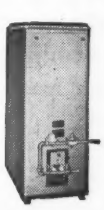


Series H Gas-Fired, Steel Utility Air Conditioning Unit.



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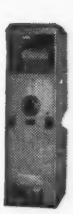

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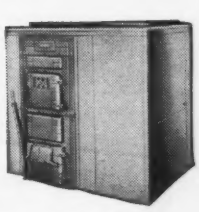

Series AC-F Coal-Fired Air-Conditioning Unit, Steel Heating Element.

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Luxaire HEATING & AIR CONDITIONING UNITS

fueloil & oil heat

Fuels" page each month in FUELOIL & OIL HEAT. A question and answer session about current Washington conditions followed the talk, with Mr. Petty apprising the directors of trends which might affect oilheating.

The directors were guests at an Oil Progress Week dinner on October 16, at which Stanley C. Hope, president, Esso-Standard Oil Co., was the principal speaker. Mr. Hope stated that "Never before has the American oil industry been so well prepared to meet a national emergency." He said the productive capacity of the industry has increased 27% from the peak war year 1945; proven reserves have increased 24% since the end of the war; refining capacity has increased 24% in the same period and the capacity of the domestic pipeline system has increased 14% in the last five years. The industry can serve the nation well and completely, he said, if allowed to operate freely and without hampering restrictions. Its record in free enterprise, continued Mr. Hope, makes the attitude of those who would harness it with checks and controls a complete mystery when one ponders its remarkable success in supplying America with petroleum products in large volume and at reasonable prices.

He predicted that even a considerable increase in military requirements can be met by the industry with little effect on its ability to supply full civilian needs. Mr. Hope warned that full-scale mobilization or a major war might bring on civilian rationing, and referred to the nation's enormous consumption of petroleum products in peacetime as a "potent resource for supplying oil for military use in time of war."

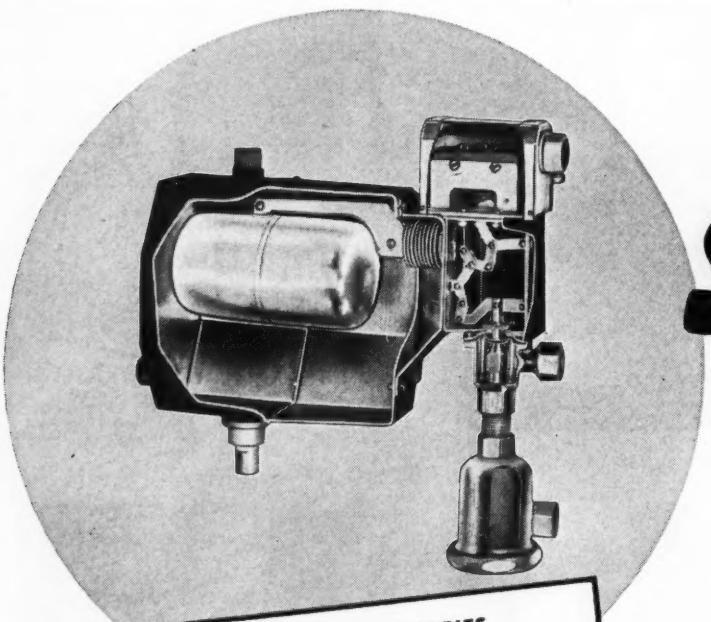
A. T. Atwill, president of Oil-Heat Institute, delivered a short talk in which he thanked the oil industry for its cooperation with the oilheating industry and asked for a continued supply of heating oils at reasonable prices and support of the various movements under way or planned to promote oilheating in the nation's homes.

Mr. Atwill pointed out that since the war the manufacturers have produced the best oilburners ever built and the "industry is committed to continued development and improvement of our product to make them better.

"We are now undertaking a program of education of dealers to provide better installation and better service of these products," he continued, explaining that the ultimate in efficient performance was the goal.

"We pledge our industry to produce and service equipment which will provide burner dependability and efficiency second to none in the heating field. We are confident that the oil companies in a system of free enterprise of production and competition can provide the most dependable source of fuel throughout our nation of any of the available heating fuels."

John H. MacLeod, chairman of the Baltimore Oil Industry Information Committee, presided at the dinner and was its master of ceremonies. John Sherwood, president of Sherwood Bros., introduced Mr. Hope and J. Hollis B. Albert, president, Oil Heat Association of Maryland, introduced Mr. Atwill. Present at the dinner also were Gov. Lane of Maryland, who



NO. 500 WATER-BOY SERIES
IN FOUR COMBINATIONS

NO. 577 WATER-BOY. A combination Feeder and Low Water Cut-off for automatically fired boilers. Switch rating ¾ h.p. 110v. A.C. and 1½ h.p. 220v. A.C.

NO. 587 BOILERGARD. Low Water Cut-Off only, giving same cut-off protection as No. 577 but without Water-Boy Feeder.

NO. 847 WATER-BOY. A combination Feeder and Low Water Cut-off. For steam pressures up to 15 lbs.

FIRST FOR SAFETY

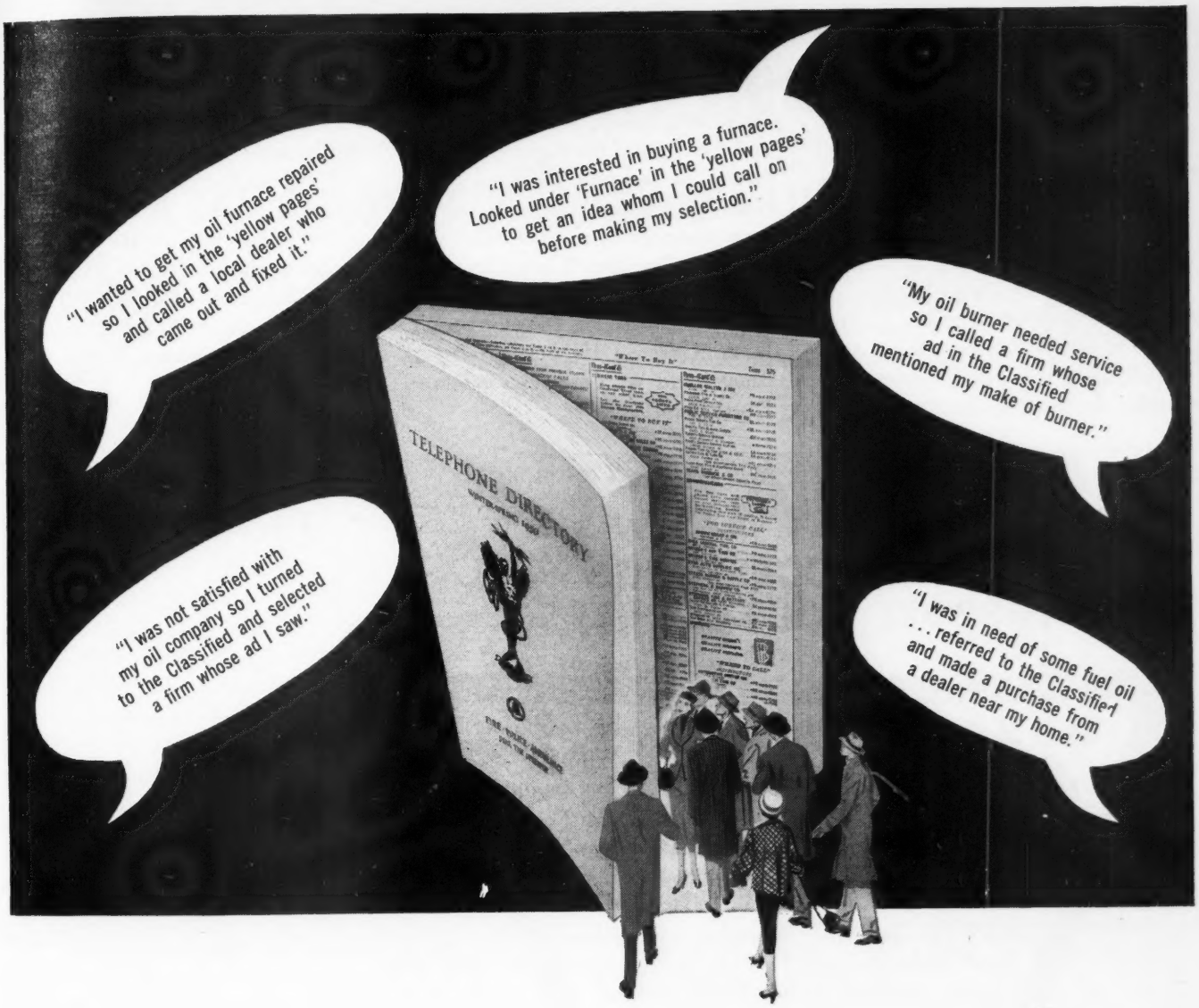
MAID-O'-MIST Boiler Water Level Controls

- New, extra-safe circuit breaker switch . . . wide switch gap . . . rapid snap action . . . heavily silvered to dissipate heat . . . no sticking or pitting of contact points.
- Compact, streamlined, light (only 5 lbs.).
- All non-ferrous metal construction.
- Easy to install.
- Priced right.

For complete data and illustrations of the important new developments in the new Maid-O'-Mist No. 500 Water-Boy Series—write for Catalog No. 500 today.

MAID-O'-MIST INC.
3221 N. PULASKI RD.
CHICAGO 41, ILLINOIS

AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS


"I wanted to get my oil furnace repaired so I looked in the 'yellow pages' and called a local dealer who came out and fixed it."
"I was interested in buying a furnace. Looked under 'Furnace' in the 'yellow pages' to get an idea whom I could call on before making my selection."
"My oil burner needed service so I called a firm whose ad in the Classified mentioned my make of burner."
"I was not satisfied with my oil company so I turned to the Classified and selected a firm whose ad I saw."
"I was in need of some fuel oil . . . referred to the Classified and made a purchase from a dealer near my home."
TELEPHONE DIRECTORY

How the 'Yellow Pages' are building sales for Fuel Oil Dealers

Statements like these prove that your advertising in the 'yellow pages' of the telephone directory can reach a lot of people who are *ready to buy.*

It is an established fact that 9 out of 10 shoppers depend on the 'yellow pages' for where-to-buy-it information. That is why so many fuel oil dealers use the 'yellow pages' to increase sales.

Your advertising in the 'yellow pages' of the telephone directory not only goes right into the homes of prospects in your own town...it reaches newcomers and visitors in town as well.

Are you advertising under all the classifications where prospects are likely to look for the products and services you offer?

FOR FURTHER INFORMATION, CALL YOUR LOCAL TELEPHONE BUSINESS OFFICE.

BELL SYSTEM
AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES

fueloil & oil heat

spoke briefly, Mayor D'Alesandro of Baltimore, and executives of local oil companies. T. Chernack, young honor student at Baltimore Polytechnic Institute, was "Oil Man for a Day," a feature of the Oil Progress program.

The following day, October 17, members of the board of directors were guests at the first fall luncheon meeting held by Oil-Heat Institute of Greater Washington, in the DuPont Plaza Hotel, Washington, D. C. A. T. Atwill headed the delegation which attended the meeting, details for which were arranged by A. Graham Shields, managing director. H. E. Bealer, chairman of the local OHI chapter, introduced Mr. Atwill, who spoke briefly, and then opened the meeting for a discussion of industry problems. Questions posed by members of the audience were answered by a panel which consisted of Directors T. A. Crawford, H. H. Wilkinson, J. W. Owens, F. C. Haab and Managing Director Becker, L. A. Casler, OHI public relations counsel and W. O. Spiess, secretary, Distribution Division.

The Institute's show committee held a meeting on Tuesday morning, October 17, mapping out preliminary plans for the Exposition to be held next April at Chicago's Navy Pier.

Next meeting of the board will be held in Rochester, N. Y. on January 9, 1951, followed on the 10th by a dealer meeting in Buffalo. John Kershaw, Rochester Mfg. Co. and J. A. Collins, Frontier Oil & Refining Co., are making arrangements.

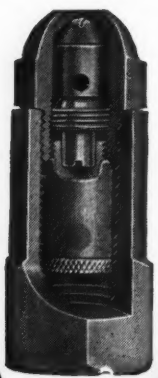
❖

MONARCH

OIL BURNER ACCESSORIES WILL IMPROVE YOUR BURNERS

MONARCH OIL NOZZLES

Most any nozzle will produce some kind of a fire, but—until you have tried Monarch Stainless Steel Nozzles (of a type with spray characteristics matched to your air mixing equipment) you won't know how good they really can be. Advise make of burner and sketch or accurately describe air mixing head and make test YOURSELF with the series Monarch Nozzles we recommend.



Monarch Combustion Head

The Monarch G-74 Head embodies an entirely new approach to efficient means for intimately mixing air with atomized oil to provide a highly efficient controlled flame.

Note these features:

1. Suitable for capacity sizes from .75 GPH to 2.50 GPH.
2. Simple to install and there is no "guess work" about the settings.
3. Price—Less than the cost of a good fuel unit.

NEW MONARCH Air Mixing Equipment

Now you can obtain simple and inexpensive air mixing equipment which will enable you to burn from .60 GPH to 1.20 GPH size nozzles efficiently and with a clean, quiet flame. You can expect from 8% to 10% CO_2 without any trouble, depending on capacity size, if set according to our instructions.

You can now offer the homeowner a good job at reasonable cost. (This equipment is for use where the extra expense of the even more efficient G-74 Combustion Head is too great for the customer.)

Write for new Catalog D Supplement

MONARCH MFG. WORKS, INC.

2503 E. ONTARIO ST.

PHILADELPHIA 34 PENNA.

European Distributor: A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland

Home Fuel Oil dispatches Trucks by Radio-Phone

HOME FUEL OIL CO., Passaic, N. J., oldest independent company in the area, has added two-way radios to dispatch three service trucks on an experimental basis. If results prove satisfactory and costs are kept within reason, the service probably will be extended to the company's highway tankers.

The system uses frequency-modulation at ultra-high frequencies, served by a main transmitter in Newark operated by the telephone company. The transmitter sends out the radio voice as it comes in by telephone from the company office. Return voices from the trucks are picked up by telephone lines through any one of four telephone company receiving stations. In emergencies, one truck can communicate with another through the Newark base station.

In the truck the equipment consists of a transmitter and receiver chassis and extra large generator. A white light on the signal panel shows the set is ready for operation, a red light indicates that the driver is to call his office. The handset used resembles a standard French telephone, equipped with a button which is pushed in when the driver is talking and released when he is listening.

Col. James H. Wright, president of the company and vice-president, New Jersey Fuel Oil Trades Association, looks upon the addition as an extra service available to his customers. Home Fuel Oil has servicemen available 24 hours a day during the heating season to care for its 5,000 accounts.

Satisfy All Customer Heating Needs

WITH THE *Combustioneer*® LINE OF PRODUCTS

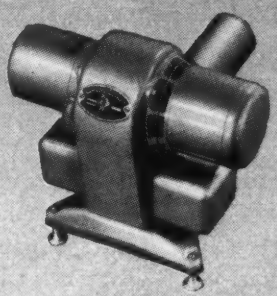
Weigh the Selling Features! They're what pay you profits in any line of heating equipment. Combustioneer has them . . . exclusive features with powerful sales appeal. Look at them, displayed and described here. Then decide that YOU want them . . . let Combustioneer make *easier and faster sales,* for *YOU,* in YOUR business!

COMBUSTIONEER OIL FURNACES

Up-draft-down-draft principle for maximum efficiency. 10-gauge steel heat exchanger. 20-gauge cabinet. Slip-joint construction. Die-rounded corners. Two doors for blower access and clean-out. Platinum-blue finish. Exclusive Triple-Velocity-Visorhead Burner and Combustioneer Humidifier. BTU input 119,000 to 245,000.

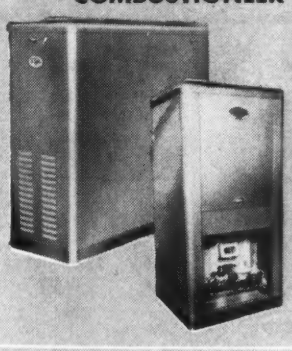
NEW! AMAZING!

COMBUSTIONEER OIL BURNER



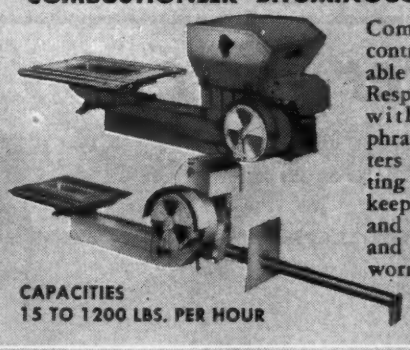
The "peer" among oil burners. Exclusive Combustioneer Triple-Velocity Visorhead. Straight line air delivery. Factory wired two unit safety control. Whisper quiet operation. Can be installed in most all types of furnaces or boilers. Standard equipment in all Combustioneer Oil Furnaces.

COMBUSTIONEER GAS FURNACES



12-gauge steel heat exchanger. 20-gauge cabinet. Slip-joint construction. Die-rounded corners. Two doors for blower access and clean-out. Platinum-blue finish. Multi-jet gas burner . . . plus the famous Combustioneer Humidifier. Gravity, Hi-Boy and Forced Air models. BTU input 85,000 to 150,000.

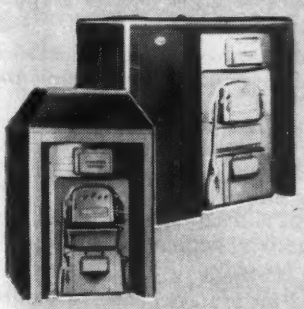
COMBUSTIONEER BITUMINOUS COAL STOKERS



CAPACITIES
15 TO 1200 LBS. PER HOUR

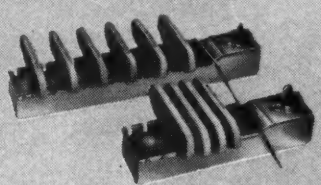
Complete automatic air control with the dependable hydraulic-pneumatic Respirator, which operates without flappers, diaphragms, dampers or shutters in the air duct. Pulsating Gear Drive, which keeps fire-bed poked-up and free-burning. Hopper and bin-feed models. Bin worm sections up to 16 feet with no moving parts under the coal.

NEW *ALL-FUEL* COMBUSTIONEER FURNACES



ALL-FUEL cast iron winter air-conditioning furnaces that burn oil, gas, coal or coke, made for easy, fast, economical fuel-conversion at any time. Smooth, die-formed, rounded-corner cabinets. Platinum-blue finish. Forced-air and gravity models, complete range of sizes.

COMBUSTIONEER HUMIDIFIERS



EASILY INSTALLED
IN ANY WARM AIR FURNACE

Combustioneer has the exclusive *dual valves,* which are constantly submerged in water for dependable operation without clogging, rusting or corroding. Stainless steel pan which can't corrode. Thick ceramic plates assure free evaporation at all times. Standard equipment on Combustioneer Oil, Gas, and All-Fuel Furnaces.

Write or wire—obtain complete details about Combustioneer selling features. Valuable dealerships open on a direct, factory-to-you-basis.
District sales representatives wanted.

COMBUSTIONEER DIVISION
THE STEEL PRODUCTS ENGINEERING COMPANY
1231 West Columbia St., Springfield, Ohio
Manufacturers of Heating Equipment since 1928

Combustioneer OIL BURNERS, HOPPER AND BIN-FEED STOKERS, COAL-GAS-OIL FURNACES, HUMIDIFIERS

Indiana Oil Men Hear Current Reviews

THE ANNUAL MEETING of the Indiana Independent Petroleum Assn., held at Indianapolis October 12 and 13, brought together industry and government specialists to make up a program designed to evaluate the jobbers problems in view of fast changing world conditions. All officers and directors were reelected, with Morris Parker continuing as president and Bob Moore as secretary.

The opening speaker, Parker pointed out that the world situation has brought nerve wracking times to oil men. He urged that, in the Government and industry organizations now being formed to deal with problems of the defense production era, independent petroleum jobbers be included on every single committee.

He told the jobbers that volunteers are going to be needed to give their time, and even money if required, to protect the jobber's position. If prices are to be frozen, Parker asked that machinery be set up to adjust unreasonable hardship cases, for example spots that may temporarily be in the middle of a price war, such as New Jersey. Then, if we should get into a full scale war, he urged that independents be given the whole job of handling the home front, the majors caring for the war fronts.

John Bero, president of the National Oil Jobbers Council, next brought to the audience a plea for wider recognition of the jobber by the petroleum industry. Criticizing the members of all such associations for not taking a more active interest in industry affairs, he said, "We tend to wait for a crisis rather than prepare and be ready for it. Many times I have said in my work among jobbers and suppliers that the independent jobber, along with our major supplying sources, wants to see a perpetuation of the American way of life. Too often a casual observer would not be too favorably impressed by what he sees as he looks down both sides of the marketing fence. The doubt engendered by what he observes causes him to think that there are definitely two sides to the story." Some other significant paragraphs from his paper:

"So often do we Jobbers experience the selling, by a large Supplying company, to municipalities, commercial accounts, and industrial accounts, on a direct basis, that renders the average Independent Jobber unable to compete. This development has been expanding in scope, and from Jobber comment the practice is quite universal. Because of this, a large choice gallonage, formerly competitively available to the Jobber, now enjoys the same status, as far as the Jobber is concerned, as the 'untouchables' of India. It is 'hands off' for the Jobber, because apparently he is of the wrong caste and his plight therefore cannot be recognized. Many Suppliers recognize the Jobber's impotence in this kind of a

A filter for every Oil Burner Service

SPARKLER FUEL OIL FILTER

Model OB-2
actual size
Approved by
Underwriters' Laboratories

THREE SIZES OB-2 OB-4 OB-8

You get

- ★ **A nice profit item**
- ★ **Easily stocked refill element. One type filter disc used on all filter sizes.**
- ★ **Reduction in service calls due to clogged nozzle screens.**
- ★ **Customer satisfaction — no burner trouble when filling of tanks stirs up sediment.**

The positive seal prevents by-passing of unfiltered oil, this eliminates trouble due to clogged nozzle screens. All oil that reaches the burner is filtered through the rayon element that removes minute particles down to .002 and any water in the oil. This is particularly important with small size burners used in the average home.

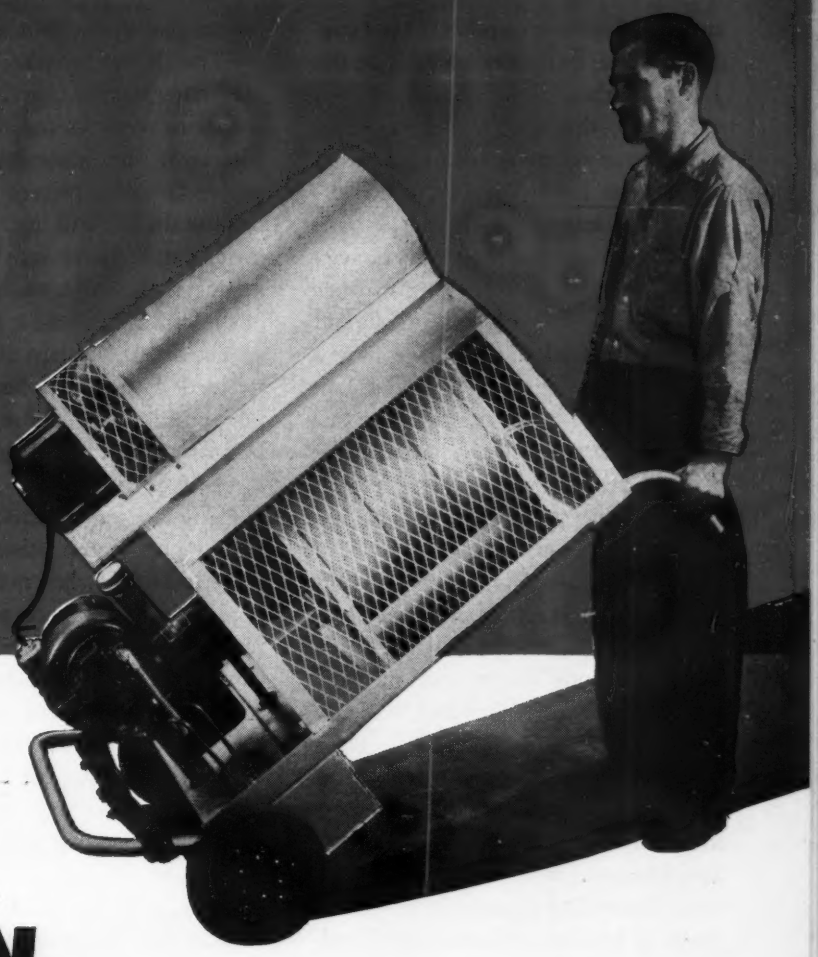
Three sizes—OB-2 for average home size burners. OB-4 for larger burners or unusually dirty tanks. OB-8 has four times the capacity of OB-2.

Order from your jobber

SPARKLER MANUFACTURING CO., Mundelein, Ill.
Makers of industrial filters for the Food, Chemical, and Oil Processing industries for over a quarter of a century.
Member, Oil Heat Institute of America

now

WITH TEMPORARY HEAT YOU CAN OVERCOME THE GREATEST OBSTACLE TO WINTER REPAIRS AND INSTALLATIONS



WITH THE *new*

SILENT GLOW PORTABLE HEATER

..heat where you want it...when you want it

at the flick of a switch!

Temporary heat while the heating equipment is down! That's what this new portable unit enables you to provide while you make furnace or burner repairs or install new equipment during cold weather. Just wheel the unit right on the job...then flick the switch. In 5 minutes you'll have all the heat you need. CLEAN...burns clean with no soot or fumes...no carbon monoxide or unburned hydrocarbons. LOW COST...low original cost...low operating cost. Unit delivers 168,000 BTU per hour.

Those Who Know Choose SILENT GLOW OIL BURNERS

Get the facts Today!

To: THE SILENT GLOW OIL BURNER CORP.
850 Windsor St., Hartford 5, Conn. • 1500 So. Western Ave., Chicago 8, Illinois

Send us the complete facts about Silent Glow Portable Heaters.

Name_____

Company_____

Street_____

City_____ State_____

situation but offer no relief. May I suggest to those Suppliers who do use the Jobber method of marketing, in part or totally, that the Jobber be made competitive on some reasonable basis so that the Jobber is not barred forever from securing this type of business. Even in areas where dual marketing is practiced, a Supplier's Jobber is the Supplier's customer and should be so recognized and aided. Where a Supplier operates solely through a Jobber, his request for aid to meet this kind of competition can certainly be deemed fair and necessary if a Supplier's volume is to be maintained and his customer protected.

"There is mounting Jobber resentment to some practices of certain Majors who operate on the dual marketing principle—both direct and indirect. Specifically—the lease and sublease idea is apparently overstuffed in some areas, causing the Jobber to think that his business is being taken from him by somebody who has a larger and broader assured source of income, a more facile way of spending it, and who suffers no pangs of hesitancy when a certain gallonage goal in any area is wanted.

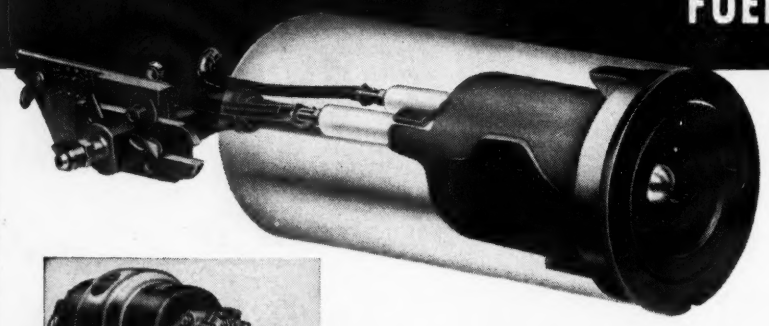
"The Jobber thinks that the net marketing income from certain specific situations is not an income at all—it is a straight and plain loss—which the Jobber from his present margin could not sustain and still live. Therefore, he yields, and retires into his corner—hoping that a dash of the cold water of understanding and a swab with the sponge of appreciation of his plight, all wielded by his Supplier, will revive him, and let him continue to live and be a useful part of any good Supplier's marketing plan.

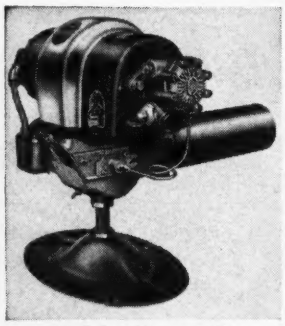
"The loaning of equipment, painting programs, and other acts of misplaced charity, when not based on the application of common sense, are definitely in the realm of bad practice, because they lead to acts of revenge, seemingly justified by the desire for self-preservation on the part of the victim. May I suggest to both Major and Jobber who may be indulging in this type of marketing that a halt be called now.

"The majority of Jobbers have a feeling that little or no attention is given to their plight from an economic standpoint, that some Supplying sources apparently feel that there are two schools of economics, one for the Jobber, the other for the Supplier. The Jobber knows, of course, that on the side of the 'origin of income' there is a school that he can attend, but only on a part-time basis; whereas on the side of 'use and application of income' there exists a school that everybody can attend, because the cost of doing business has a set pattern and Supplier and Jobber are affected alike by it. The Jobber, like every other loyal American, has pledged himself to support our government, along with the entire Petroleum Industry, in this time of international turmoil. This is not an act of self-sacrifice; it is the very plain duty of every American citizen, every Industry, who prizes and seeks the continuation of our American way of life.

"All the Jobber asks is that in these economic surges which occur, he be recognized as being one of the elements seriously affected by the surges; and that a decent and fair method of eliminating the evil of the drag of low mar-

MORE HEAT from LESS OIL with CENTURY'S
FUEL-SAVING FIRING HEAD





Models: 01 and 02

Home owners want its economy when they buy Oil Heating Equipment

The new CENTURY adjustable Firing Head is designed to deliver maximum heat . . efficiently! Positive control of primary and secondary air provides a perfect fuel-and-air mixture to give clean, complete combustion from all types of home heating oils including the newer catalytic fuel oil that is so high in heat units . . . but, ordinarily, so hard to burn.

CENTURY'S new fuel-saving Firing Head is standard equipment on CENTURY Winter Air-Conditioners and Boilers as well as on Conversion Burners up to 5 G.P.H. capacity.

It's easy to Sell these Advantages!

- Fuel economy through better combustion — cleaner fire.
- Easy adjustment for any draft condition.
- Fewer Service Calls.
- Burns all types of domestic heating oil.

Write today for literature . . . or ask to have a salesman call

Start now to Profit with CENTURY'S Complete Line of Automatic Heating Equipment

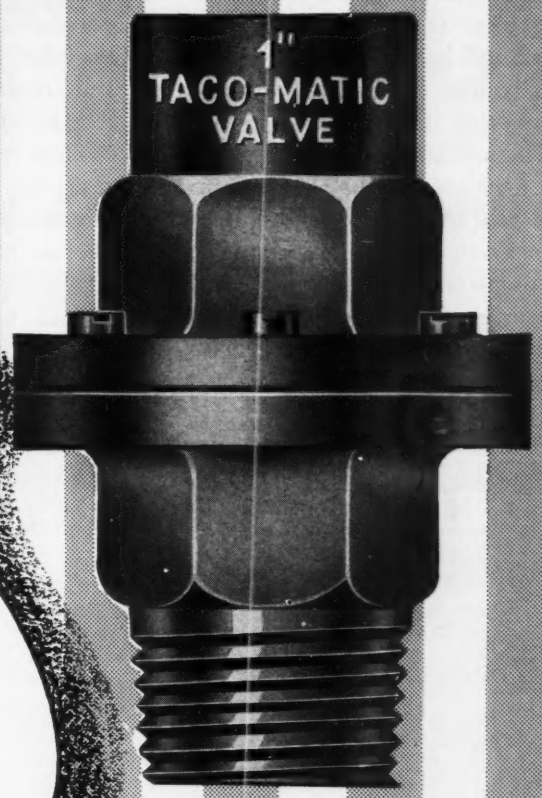
CENTURY Winter Air-Conditioners (85,000 — 380,000 BTU — Utility and Basement Models), Boiler Burner Units (380 — 740 sq. ft. of radiation); Convertible Winter Air-Conditioners (60,000 — 180,000 BTU — Gas Burner, Gun Burner, Vaporizing Burner); Oil-Fired Conversion Burners (¾ — 20 G.P.H.), Gas Conversion Burners (87,000 — 250,000 BTU).

CENTURY ENGINEERING CORPORATION
MAIN OFFICE & FACTORY • CEDAR RAPIDS, IOWA

IT'S NEW ...SMALLER IN SIZE ...LOWER IN PRICE

it's the NEW 1" TACO-MATIC VALVE

MORE AND MORE FOLKS WHO'VE TRIED THE 1¼" and 1½" SIZES ASKED US FOR THIS SMALLER SIZE



PROTECTS TANKLESS HEATER PERFORMANCE BY SHUTTING OFF WHEN BOILER WATER TEMPERATURE DROPS TO 175°F.

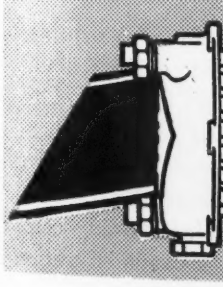
TACO-MATIC shuts off tight when boiler water drops below 175°F., enabling the low limit control and burner to maintain satisfactory boiler water temperature. Replaces the reverse action control. That's why Tankless Heaters can now work as well on forced hot water jobs as they always have on steam. Also of importance, TACO-MATIC operation practically eliminates all expansion noises, particularly on copper pipe installations.

Try this low cost TACO-MATIC valve on your next forced hot water job. *You save the cost of a reverse action control.*

PERFECT FOR THE SMALL HOUSE

AND SMALL WATER CONTENT BOILERS

Better Heating-Better with Taco



Taco

TACO HEATERS, Incorporated

137 South Street—PROVIDENCE 3, R. I.

gins over protracted periods be ameliorated by a reasonable minimum protection plan, or by some other means which will be equitable. One who has ever been on a ship that tows a barge knows that there is always present a towing machine to which is attached the towing cable. As ship and barge ride the crest, or are down in the trough—this automatic towing machine prevents the snapping of the towing cable, and keeps the towing unit in control by eliminating drag. Our Suppliers do the towing and our Jobbers are the towed—but the automatic features for eliminating drag are not applied. This suggestion is made in the belief that plans will be considered and enacted by Suppliers which will recognize that a Jobber's cost of doing business is, like his Supplier's, rising each day. The Jobber has no secret formula for curbing inflationary influences; but, like his Supplier, he is the victim of them, and he naturally turns to, and expects from, his Supplier the help that he needs.

"Whenever refinery runs are out of balance, and a shortage of some commodity occurs, resulting in an increase in cost of the short item, the Jobber feels that the tendency on the part of some Suppliers is to make the Jobber absorb, for an unreasonable time, practically all of the increase in some areas. Every time this occurs, the spectre of fear looms up, and the Jobber again begins to ask questions. He wonders what reasoning prompts the thought that the Jobber can or will survive if his 'margin of profit' is a fleeting, rather than a stable thing? Regulatory arrangements, planned and applied by those outside the industry, are not the answer, because this would forever preclude the possibility of free and independent management of private business. This the Jobber does not want, because he believes in free enterprising and has complete confidence in the ability of the great Petroleum Industry to run its own affairs. We have been assured that the Jobber is needed, but we have never been given a go-ahead which will let us build, improve, expand, with a feeling that—because of conditions over which the Jobber has no control—we may suddenly find ourselves holding the bag with an obligation that might easily lead to bankruptcy."

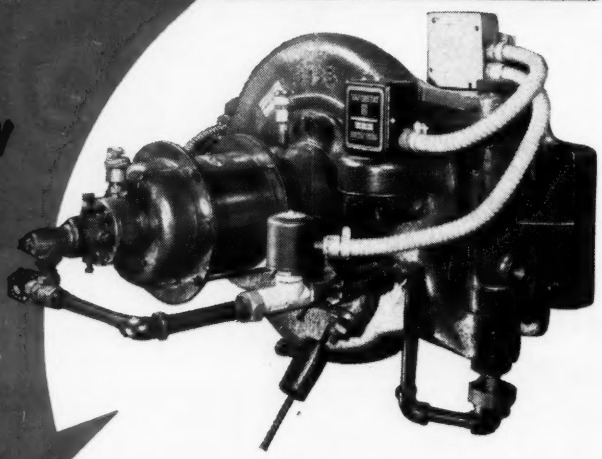
The third speaker the first day was Robert Gray, editor of FUELOIL & OIL HEAT, who questioned the independence of an "independent" oil man who is daily dependent on the fluctuating policies of major suppliers for a chance to live. He urged that in their fueloil marketing the members should establish their own selling prices based upon costs, rather than on margins set by their suppliers. He pointed out that on any fixed margin a lot of fueloil men can make out where others in the same market can't possibly. He believes that the concept of uniform quality, hence uniform price for all fueloils, is a deadening influence in the profit picture.

Leading the second day's list of speakers was Barney Majewski, vice president, Deep Rock Oil Corp., Chicago. He stressed the American heritage of free enterprise based on a two party political system. "Fifty-seven percent of our people," he said, "can't remember a Republican administration

DEALERS . . . CONTRACTORS

INCREASE YOUR INSTALLATION PROFITS AND FUELOIL SALES

SELL AND INSTALL



INDIANA OIL BURNERS

FOR BURNING No. 5 AND No. 6 OIL

MANUFACTURED FOR 25 YEARS
INDIANA OIL BURNERS
are excellent for installation in
- DAIRIES
- HOTELS
- STORES
- SCHOOLS
- CHURCHES
- LAUNDRIES
- APARTMENTS
- INDUSTRIAL PLANTS
- THEATERS
- PUBLIC HOUSING
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U. L. APPROVED

- **SIMPLE INSTALLATION AND MAINTENANCE**
  The rugged construction of all parts of the Indiana Burner insures long life. Its superior engineering makes for simple installation.
- **A TRUE ROTARY CUP BURNER**
  Comes with detached primary air blower for large installations. This burner has wide range modulating limits.

Write Today . . . get full information and prices on this amazing Burner.

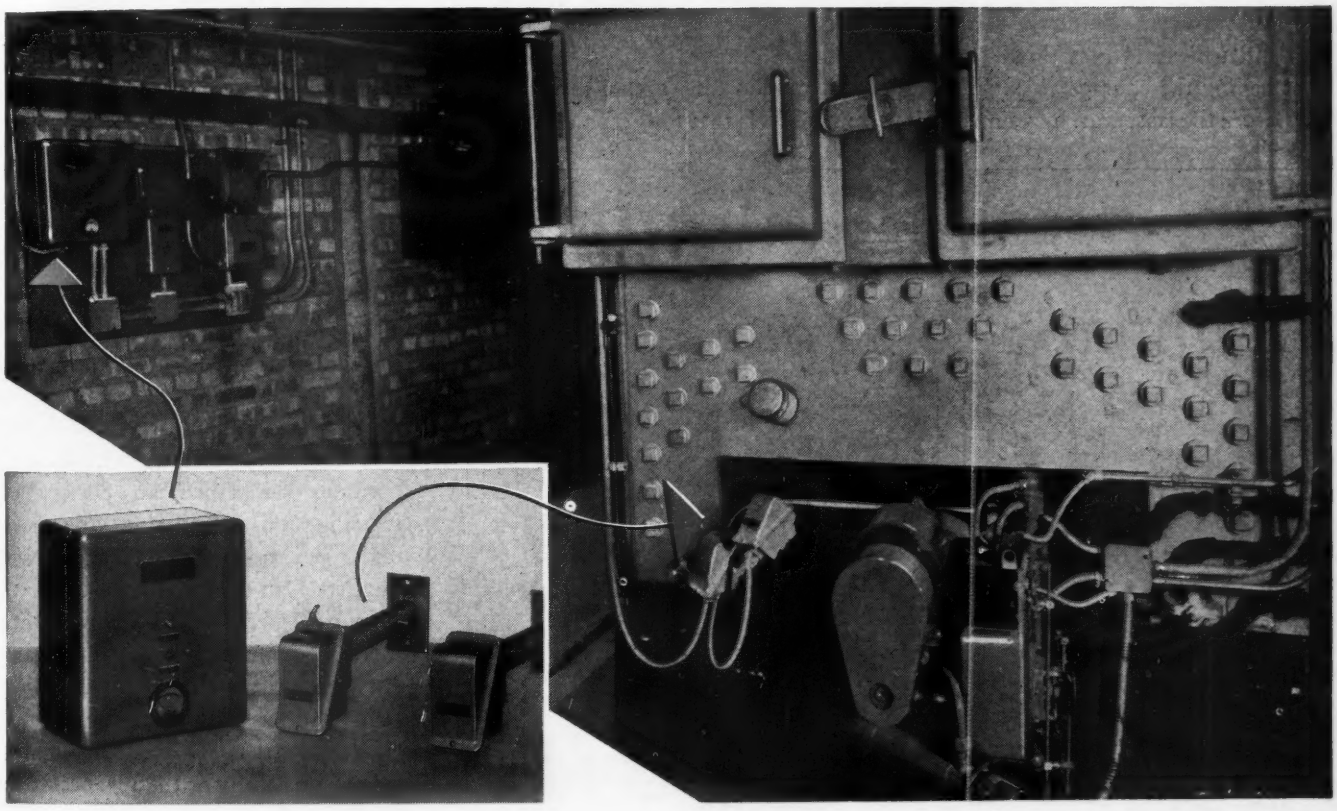
TERRITORIES STILL AVAILABLE FOR QUALIFIED DEALERS

WILLIAMS BROS. & MILLER, INC.
619 WEST CHICAGO AVENUE • EAST CHICAGO, INDIANA

NOW - Commercial Oil Burners

PROTECTED 8 WAYS

With G-E Electronic Oil Burner Control



G-E control components are compact, easily mounted, easily maintained—fully protected.

Photoelectric equipment means fewer moving parts, less maintenance. Here the phototube and electrode units are mounted at the side of the burner. A Tri-Clad* motor and transformer complete the all-General Electric system.

This photoelectric system provides a simple, effective method of controlling and protecting any type of commercial oil burner installation. Simple, easy to install, it offers fail-safe operation for long life, little maintenance. Approved by Underwriters' Laboratories and Factory Mutual.

EVERY FEATURE A PROTECTION FEATURE

1. **Pilot Protection:** oil valve cannot open unless gas pilot has ignited.
2. **Flame Failure Protection:** photoelectric design assures almost immediate closing of oil valve in case of complete flame failure.
3. **Recycling:** if flame fails after starting, a timed "purging" period prevents immediate restart until explosive gases are cleared from the combustion chamber. The control then automatically recycles.
4. **Cold Oil Protection:** oil temperature thermostat can be used with circuit to assure correct temperature before starting cycle begins.
5. **Power Failure Protection:** program switch automatically recycles before oil valve can open upon return of power.
6. **Motor After-run:** purges nozzle or cup of unburned fuel minimizes carbonizing to reduce field servicing.
7. **Lock-out Indication:** cover light indicates ignition failure. Reset button must be pushed to restart system.
8. **Fail-safe Operation:** self-checking circuit prevents starting unless equipment is in proper condition.

In Addition: General Electric offers both motors and transformers for your commercial oil burner installation designed and time-proved for your equipment. The nearest G-E sales office will give you more information, or write for Bulletin GEA-4779. *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

*Reg. Trademark of General Electric Company.

GENERAL ELECTRIC

and what it stood for." Majewski thinks jobbers are too easy going. He has observed that they have complained ever since the last war about not being on important committees, and that if they don't take part this time they can only blame themselves.

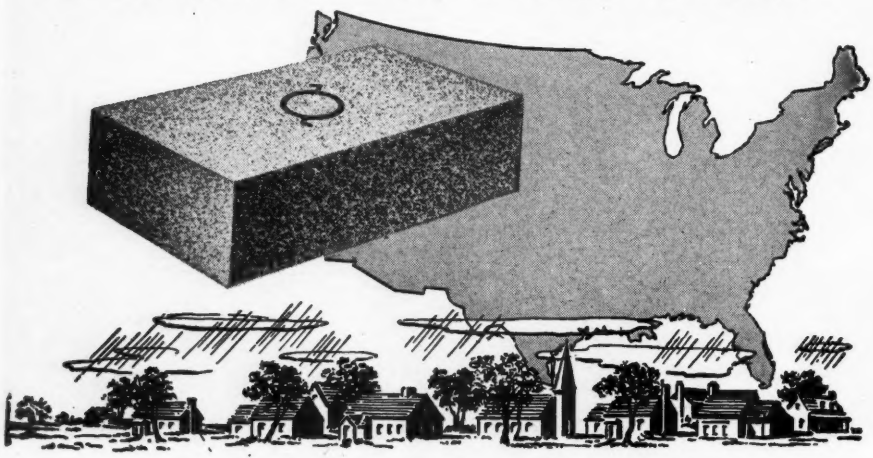
C. Girard Davidson, assistant secretary of the Interior and the next speaker, emphasized the greatly expanded needs for steel in the oil industry and criticized the steel industry for not having the courage to expand.

Before the laast war, he pointed out, oil men used 2½ million tons of steel a year; during the war they used 1.6 million tons a year; now the National Petroleum Council estimates needs at 10 million tons in 1950, or 10% of total steel production.

Davidson feels that the steel industry can't visualize a period of ever-expanding economy and, therefore, is reluctant to build capacity for the steel needed. Steel men, he explained, will increase output from 100 million to 110 million tons by the end of 1952, but he feels that the absolute minimum required will be 125-130 million tons. He says that when Government puts pressure on the steel industry to expand, instead it steps up its public relations and advertising programs. "The country can't sit idly by," he says, "while we do without steel." Believing that steel is the nucleus in our whole national economy, he declared that its output simply must be expanded to meet our full civilian and military needs . . . either by private enterprise or otherwise.

❖

Let "A Quarter of a Million Families" Be Your Guide

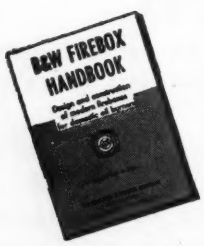


Yes, more than a quarter million families are getting oil heating comfort at a much lower cost because wide-awake and alert dealers have provided them with B&W Fireboxes.

This figure carries a vital sales message for you. It shows that dealers and customers all over the country recognize the advantages of B&W Insulating Firebrick. It proves that they are "sold" on the Fireboxes that —

1. **Save fuel, due to more efficient insulation.**
2. **Minimize odor, soot and smoke.**
3. **Assure smoother, quieter burning.**
4. **Respond quickly to thermostat by reaching temperature quickly from a cold start.**

Follow this lead to increased sales and profits—by showing your customers the benefits of B&W Fireboxes.



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B&W FIREBOX HANDBOOK
a sure guide to customer satisfaction and more sales.

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B&W 80 GLASS TANK BLOCKS • B&W INSULATING FIREBRICK
B&W REFRACTORY CASTABLES, PLASTICS AND MORTARS

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Chemical Recovery Units . . . Seamless & Welded Tubes . . . Pulverizers
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WORKS: AUGUSTA, GA.

Economy to be Keynote of Heating & Ventilating Show

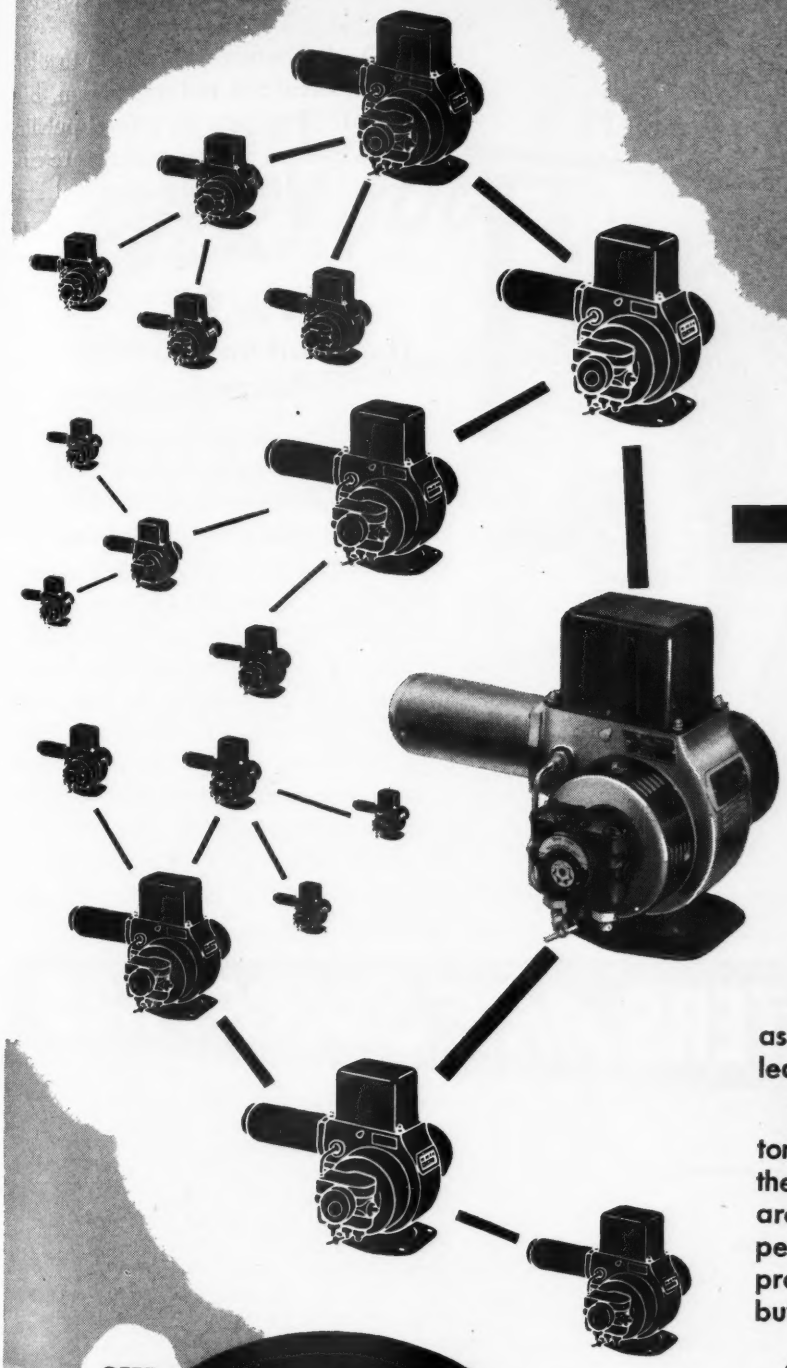
IMPROVED ECONOMY in equipment operation will be the theme of the 10th International Heating & Ventilating Exposition, to be held January 22 to 26, 1951 at the Commercial Museum, Philadelphia. Coincident with the Exposition, the American Society of Heating and Ventilating Engineers, under whose auspices it is held, will stage its 57th annual meeting.

Improvements, which began with the development of equipment to use low grade and relatively inexpensive fuels and the use of more refined classes of fuels, will be highlighted most dramatically by the advances to be shown in the control of heating, ventilating and air conditioning systems.

The Exposition will be the largest display of its kind ever held and will feature exhibits of every type of equipment in use today, as well as a number of innovations that have been developed within the past year. One manufacturer has designed an exhibit to show a complete line of baseboard heating, another will demonstrate a line of extended fin surface radiators, with a solid steel front cover for any length of radiator. Another will feature a prefabricated finned tube coil, with built-in hanger and accessories.

Warm air heating displays are to emphasize those that use prefabricated duct systems, one of which incorporates an extended plenum type, with fittings. Packaged equipment, notably automatic, self-contained steam generators, again are expected to draw maximum interest, with other exhibitors scheduled to display new and im-

chain reaction



In Quiet MAY oil burner sales, as in atomic energy, one thing leads to another—no end!

Each satisfied Quiet MAY customer leads dealers to more of the same. As the good word gets around—about Quiet MAY dependability and economy—burner prospects aren't merely added, but *multiplied!*

As a Quiet MAY dealer, you'll find that Quiet MAY owners are among the best salesmen you've got. Put them to work for you—*now!*

MAY OIL BURNER Division of Gerotor May Corp., P. O. Box 86, Baltimore 3, Md.

OHI

QUIET MAY OIL BURNER

CONVERSION BURNERS • BOILER- AND FURNACE-BURNER UNITS

It doesn't seem possible that a cute little thing like that could keep you warm!"

proved domestic heating units, employing coal, gas and oilburners.

The Exposition will be open to visitors by invitation and registration, but is not to be open to the general public. As in past years, arrangements are under the direction of International Exposition Co., Charles F. Roth, manager, E. K. Stevens, associate manager.

❖

Homebuilding Activity Drops in September

THE FIRST substantial break in 1950 housing construction was reported in September, latest month for which figures are available, by the Labor Department's Bureau of Labor Statistics. During the month builders started 115,000 new nonfarm dwelling units, a decrease of 26,000 units from August totals. This greatest August-to-September decline on record was attributed to the effects of credit curbs that existed at the time and anticipated stricter controls that were announced in October.

The influence of credit restrictions, reports the Bureau, is even more ap-

GENERAL FUEL OIL FILTERS ARE SURE FIRE

Deluxe Model 2A-300 Jumbo size for large systems or dirty tanks.

Master Model 2A-700 Adequate capacity for average to large size homes.

Standard Model 1A-25 Ideal for small homes, space heaters, and hot water heaters.

A General Filter on every oil burner installation is one way to insure against fires going out due to clogged nozzles. Dirt, due to oxidation, will gradually accumulate in every tank so that the older the installation, the more need for a General Filter. Contact your jobber or write direct to the factory for additional information on sizes, prices, and discounts.

GENERAL FILTERS INCORPORATED
GENERAL FUEL OIL FILTERS
12890 WESTWOOD AVENUE
DETROIT 23, MICHIGAN
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 2679 DANFORTH AVE., TORONTO, ONTARIO

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EVERY JOB

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Automatic Heat

- Units for Oil or Gas
- Complete Size Range
- Full Choice of Types

Yes, you can sell *every* prospect with HEIL Automatic Heat. There's a unit for every kind of job. HEIL's features make selling easy. Every unit bears the highest applicable approval for safety and efficiency. Every unit is built with the craftsmanship that cuts servicing, boosts efficiency. Every unit has the styling that leads the way in the industry. HEIL has superiority you can actually demonstrate to your prospects.

You save on installation with pre-assembled, pre-wired HEIL units. Ready accessibility of parts cuts your servicing cost. You're ahead in every way with HEIL. Why not write today for details about a HEIL franchise?

THE HEIL CO.

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HILLSIDE, NEW JERSEY

District Offices: Hillside, Washington, D. C., Atlanta, Milwaukee, Detroit, Chicago, Minneapolis, Kansas City, Dallas, Los Angeles, Seattle

parent in the declining volume of housing planned for future months. Telegraphic reports have shown that the number of dwelling units for which building permits were issued in September was down from August by 28%. The decline is country-wide, with the greatest drop reported from the East North Central States.

Despite the drop from August levels, September's totals exceeded the same month last year by 12,000 units and was an all-time high for the month. Total for the first nine months this year reached 1,105,700 units, compared with 747,000 units in 1949. Public housing, on the other hand, amounted to 21,500 units by the end of September, 30% below last year.

The above figures are preliminary, the Bureau points out, and explains it is conducting special field surveys to finalize the estimates.

Complete reports for the first six months raised estimates of June housing starts to 144,300 units, with new rental housing—units in 2-or-more family buildings—accounting for 17% of all new dwelling units started during the first six months. In 1949, rental housing amounted to 23% of new starts. During the first half year 414,800 units were begun in urban areas, a gain of 65% over 1949 and rural-nonfarm housing at 290,900 units, was 47% high this year during the first six months.

BLACKMER TRUCK PUMPS ARE

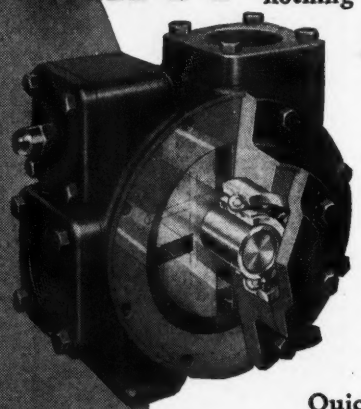
QUIET

Freedom from noise is achieved with non metallic sliding vanes. This feature is exclusive with Blackmer.

THRIFTY

Priced right to buy, Blackmer Truck Pumps cost little or nothing for maintenance.

Self-adjusting for wear



Note the vane placement in the phantom pump and the enlarged detail at the left. Vanes are self-adjusting for wear. If the vanes eventually wear to the extent indicated by the shaded area in the drawing, they may be easily replaced at little cost. The pump lasts a lifetime.

FLEXIBLE

Quickly reversible, tapped or flanged connections, power take-off or engine driven, saddle or box mounting at any angle.

EFFICIENT

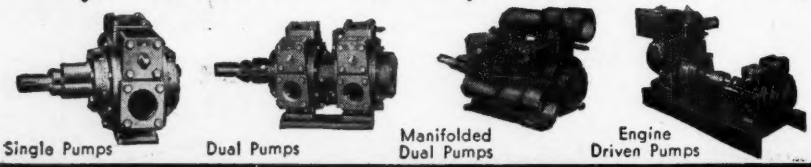
Full rated capacity of the 40, 60, 100 and 200 g.p.m. Blackmer truck pumps is delivered at moderate shaft speeds.

RUGGED

Precision-fitted parts of "battleship" durability are assembled into a life-time unit for long, trouble-free service.

Because Blackmer Truck Pumps are rotary, positive displacement and self-priming, they serve every known service to which truck pumps can be put, some of which other types cannot handle. Because Blackmer supplies all popular sizes up to 200 g.p.m., your truck pump needs can best be served by Blackmer.

Write for Bulletin TP3 describing Blackmer Truck Pumps



Single Pumps | Dual Pumps | Manifolded Dual Pumps | Engine Driven Pumps

BLACKMER PUMP COMPANY – GRAND RAPIDS, MICHIGAN

U. S. Department of Labor Fueloil Prices (August)

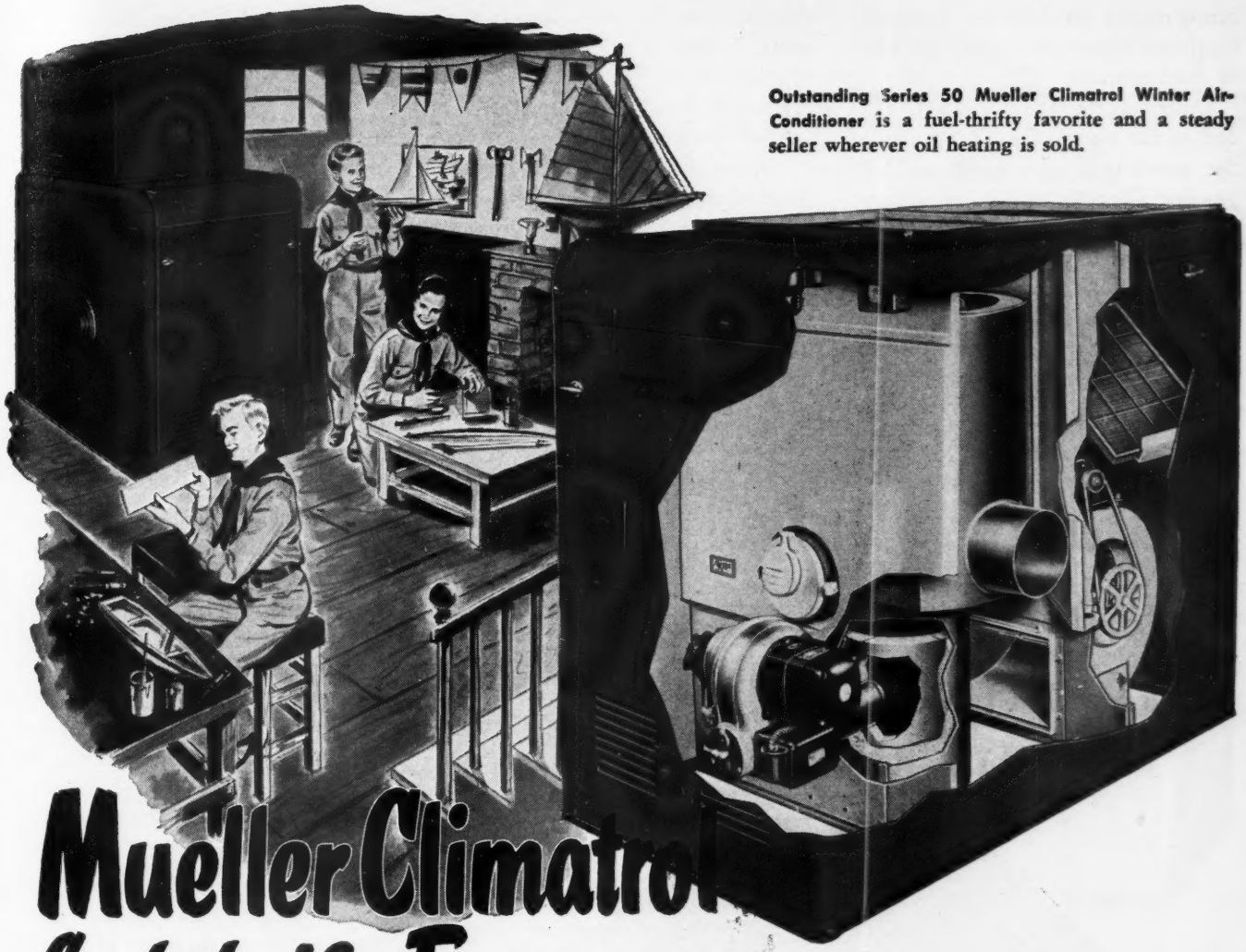
FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken August 15 (cents per gallon):

	Range	No. 1	No. 2	No. 3
Boston	13.67	13.25	11.40	..
Manchester	14.30	13.80	12.10	..
Portland, Me.	13.50	13.52	11.40	..
[3] Buffalo	..	12.34	11.42	..
[1] New York	..	12.82	11.83	..
Philadelphia	..	13.67	12.18	..
[1] Chicago	..	12.60	11.20	11.20
[4] Detroit	..	13.00	11.60	..
Milwaukee	..	14.50	12.50	..
[1] Kansas City	14.44	..	13.03	12.93
Minneapolis	..	..	11.51[7]	..
[1] Baltimore	..	12.35	11.58	..
[1] Wash., D. C.	13.81	13.46	12.55	12.55
Jacksonville	..	14.21	13.18	..
Norfolk	..	14.00	13.10	13.00
Richmond	..	12.24	11.22	11.22
[2] Savannah	14.47	14.23	13.18	13.23
[5] New Orleans	..	13.82	12.36	12.36
Portland, Ore.	..	13.94	11.64	6.55
[6] San Francisco	..	13.77	11.44	6.48
[4] Seattle	..	14.77	12.65	6.74

[1] Prices include 2 per cent tax.
[2] Inspection tax of one cent per gallon included on kerosene only.
[3] Prices include 1 per cent tax.
[4] Prices include 3 per cent tax.
[5] Prices include 3 per cent tax on all fuels except gas; prices for kerosene and fuel-oil No. 1 also include one cent per gallon State health tax, and 1/32 of one cent per gallon State inspection tax.
[6] Prices include 3.5 per cent tax on all fuels except gas.
[7] Revised price for June and July, $11.33.

Establish Petroleum Administration for Defense

ON OCTOBER 3 Secretary of the Interior Oscar Chapman formally announced the establishment of a Petroleum Administration for Defense, naming Hugh A. Stewart, director of the Department's Oil and Gas Division, as



Outstanding Series 50 Mueller Climatrol Winter Air-Conditioner is a fuel-thrifty favorite and a steady seller wherever oil heating is sold.

Mueller Climatrol *fuel-thrifty* Furnaces build your sales

with "pre-sold" nation-wide acceptance!

There are many selling points of superiority about Mueller Climatrol oil-fired furnaces. But you find your biggest asset in the name itself — Mueller Climatrol!

Yes, Mueller Climatrol is the *Big Name* in heating — known and respected throughout the country. It's the name that really opens doors for you. Folks know you handle a top-quality line, backed by nearly a century of experience. They know it well — they've seen it advertised for years in their favorite magazines.

Remember that "pride of ownership" is a mighty important factor in selling a furnace. So in addition to selling quality, economy, comfort, convenience and design, remember also to tell the prospect he's getting a furnace to be proud of! He'll know what you mean. That's another advantage of selling the *Big Name* in heating — *Mueller Climatrol!* Write for latest bulletins . . . *L. J. Mueller Furnace Company, 2197 West Oklahoma Avenue, Milwaukee 15, Wisconsin*

F-44A

93rd Anniversary

MUELLER Climatrol

REG. U.S. PAT. OFF.

fuel oil & oil heat

acting deputy administrator. Secretary Chapman himself assumed the position of Administrator.

Describing the Administration's first task as the taking of steps to increase the production of military aviation gasoline, Chapman said it also will:

Act as a clearing house for requirements of other Government agencies for oil and gas products, allocating them, if necessary;

Act as claimant agency and distributing agent for materials and commodities required in the operation of the petroleum and gas industries (this would include steel, which might be allocated by the National Production Authority, Commerce Dept.);

Work with other agencies in the development of manpower, procurement, financial and industrial operations and administer such arrangements relating to petroleum and gas.

Secretary Chapman's special oil adviser, J. R. Parten, president, Woodley Petroleum Co., indicated that PAD soon would build up its staff. Bruce K. Brown, president of Pan-Am Southern reportedly will become Deputy Administrator of the new agency.

There is only ONE

TRADE MARK REGISTERED

Draft-O-Stat

BAROMETRIC DRAFT CONTROL

AND HOTSTREAM MAKES IT!

OVER ONE MILLION

SUCCESSFUL INSTALLATIONS

New Model "B" (illustrated) now available in 6, 7, 8, 9, 10 and 12 inch sizes. Write for Bulletin.

THE HOTSTREAM HEATER CO.

6925 QUINCY AVENUE • CLEVELAND 4, OHIO

❖

Ask Establishment of Separate gas Agency

A COMMITTEE from the American Gas Association, headed by J. French Robinson, East Ohio Gas Co., has asked the Interior Department to set up a separate gas agency, Gas Administration for Defense, with a gas industry advisory committee to handle gas separately from oil under the Defense Production Act.

Natural and manufactured gas now is handled by Petroleum Administration for Defense, along with oil, but the gas industry has taken the stand that its business is not related to oil, except in those cases where both are produced from the same well. In addition, gas already is regulated by federal, state and local agencies and gas supply, transportation, storage, distribution and sale, has nothing in common with the oil industry.

This position was presented by the committee during an October 6 meeting with Acting Secretary of Interior Davidson and later Mr. Robinson signed a formal recommendation for establishment of the separate agency and requested a conference with Interior Secretary Chapman.

❖

General American to open Chicago storage Terminal

PLANS for the opening on April 1, 1951 of a fifth public tank storage terminal have been announced by General American Transportation Corp., Chicago 90, Ill. The terminal will accommodate chemical and petroleum products and will be located to service the entire midwest. Various size tankage, with loading and unloading facilities, are to be provided, with all equipment leased to customers.

Located at 67th and Archer on the Sanitary and Ship Canal, the terminal is to provide facilities for all the railroads which come into Chicago. Equipped to handle all pipeline products, special equipment will be utilized

Millions of people,

when they see a picture like this...

...think instantly of

TIMKEN SILENT AUTOMATIC'S FINE EQUIPMENT AND HARD-HITTING SALES AND ADVERTISING PROGRAMS GIVE TIMKEN SILENT AUTOMATIC DEALERS A TREMENDOUS ADVANTAGE OVER COMPETITORS!

WRITE FOR FULL INFORMATION ON TERRITORIES NOW OPEN

25 YEARS OF LEADERSHIP 1925 1950

TIMKEN
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OIL • GAS • COAL

TIMKEN SILENT AUTOMATIC DIVISION
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The Accepted S A Standard
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PLANTS AT: DETROIT AND JACKSON, MICH. • OSHKOSH, WIS. • UTICA, N. Y. • ASHTABULA AND KENTON, OHIO • NEW CASTLE, PA.

to guard against contamination of different types of liquid and to protect against excessive transportation. As an additional feature, General American is supplying negotiable warehouse receipts which can be used as collateral for financing.

❖

Power Show opens in New York, November 27

THE 19TH NATIONAL EXPOSITION of Power and Mechanical Engineering, more popularly called the Power Show, opens on Monday, November 27, at the Grand Central Palace, New York, and runs six days until Saturday, December 2. It opens at 2 P.M. on the first day, 11 A.M. thereafter, and closes at 10 P.M., except Wednesday and Saturday when it shuts down at 6 P.M. Admission is by invitation and registration, with the general public not admitted.

Exhibitors at the show will display products of leading specialists in all phases of power production and industrial use, including the general fields of light, heat and power. Advanced standards of design are to be reflected in exhibits on improved methods and equipment for treating fuel before it enters the combustion chamber, providing a wider latitude in fuel selection, a hotter fire and improved heat extraction. As a result of these advances, there will be shown also an extensive line of instruments and controls to regulate operations, including those involving remote indication and control.

Other exhibits among the 300 at the show are to demonstrate new and advanced designs for heat and power production, distribution systems, machinery and auxiliary equipment.

❖

R. B. Stotz has been named executive engineer in charge of all Airtemp Construction Corp. work in metropolitan New York and surrounding area. Mr. Stotz joined Airtemp as a field engineer in 1945, became Atlanta regional manager in 1947 and moved to Dayton in 1949 as sales engineer for the construction department. He will be located in Airtemp's New York office.

Robert K. Guy replaces *Donald W. Milestone* as service manager of the cook stove and heater division, Perfection Stove Co., Cleveland 4, Ohio. Mr. Milestone recently was named export manager.

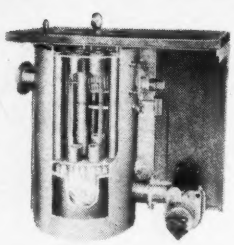
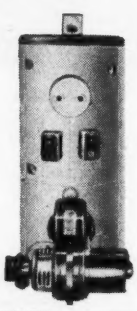
R. H. Schultz has been appointed branch manager at Milwaukee, *J. P. Manis*, district manager at Memphis, for Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Mr. Schultz formerly was at Honeywell's St. Louis office and has headed the Memphis branch since 1947. Mr. Manis has been in the Chicago sales and factory organization, the last three years as senior commercial salesman.

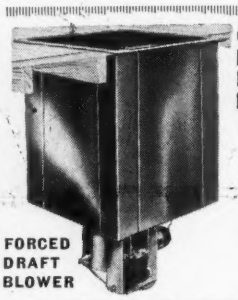
Jay E. Crane, a member of the board of directors since 1944, has been elected a vice president, Standard Oil Co. (N. J.), succeeding *R. T. Haslam*, retired. Mr. Haslam, meanwhile, has announced his affiliation as president and director of the United States Pipe Line Co., New York, recently organized by E. Holley Poe and Paul Ryan.

DELTA .....
America's Best Buy
in AUTOMATIC HEATING

and your best buy too!

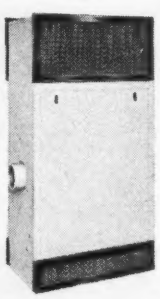
BOILER-OIL BURNER UNIT
Steam from 320 to 1100 Sq. Ft.
Water from 200 to 1760 Sq. Ft.
Bilt-in Tankless Coil
A.S.M.E. Construction
←——Extended Flush——→
Equipped with NEW MAGNESIUM ANODE "LIFE" ROD — protects boilers against corrosion

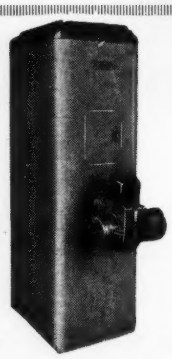

FORCED DRAFT BLOWER

OIL-FIRED FLOOR FURNACE
• Fully wired and assembled
• Floor area only 2' x 2'
• 50,000 BTU Commercial S.andards
• Smokeless-Sooeless Burner

CONVERSION OIL BURNER
Available from ¾ to 16 GPH



DELTA DUAL-WALL FURNACE
WITH CIRCULATING BLOWER FAN
• Thermostat controlled
• All parts easily accessible for servicing
• Output 52,000 BTU's
• Factory assembled



FORCED WARM-AIR OIL UNIT
• Flange-mounted oil burner
• Durable—Efficient twin-heat exchanger
• Pre-cast Bilt-in combustion chamber
• Output 90,000 BTU's
• Large blower
• Factory assembled

THE LINE THAT'S BUILT RIGHT
AND PRICED RIGHT!

SEND FOR COMPLETE LITERATURE TODAY!
Delta HEATING CORPORATION
85-07 NORTHERN BOULEVARD • JACKSON HEIGHTS • NEW YORK

The customers you retain
And the customers you gain
Result from the satisfaction you maintain

specify WOLVERINE . . . to be sure

Wolverine seamless copper tubing is recognized as the finest tubing that expert skill and long specialized experience—along with select raw material—can produce. Wolverine tube is absolutely dependable because it is quality-controlled in its production every step of the way.

Copper Refrigeration tube
individually cartoned—50 ft. coils
also available in straight lengths

Copper Water tube
individually cartoned—60 ft. coils
also available in 20 ft. straight lengths

S.P.S. Pipe
Red brass and copper in regular and extra heavy sizes

Capilator*
the capilator tube used for restriction purposes

Copper Oil Burner tube
50 ft. coils cartoned individually

AGA Copper tube (also aluminum)
for connecting gas appliances to house piping

*Reg. U. S. Pat. Off.

WOLVERINE TUBE DIVISION
Calumet & Hecla Consolidated Copper Company
INCORPORATED
MANUFACTURERS OF SEAMLESS, NON-FERROUS TUBING
1445 CENTRAL AVE. • DETROIT 9, MICH.

PLANTS IN DETROIT AND DECATUR, ALA.
Sales Offices in Principal Cities

OT* SERVICEMAN SAYS —

Rub your knuckles on the floor if you want—

I GET A CHOICE OF INLETS— SIDE OR BOTTOM"

"I'm getting too old to be trying to get at poorly located outlets, because I can't stand on my head, and I don't like skinning my hands on those tough-to-get-at spots. So I got smart years ago and started using Webster Electric fuel units. With either a side or bottom inlet I eliminate a lot of bother and unnecessary monkey business, and I thought I'd pass that tip along to you."

An identical unit is made for sale in Canada by Canadian Acme Screw & Gear, Ltd. of Toronto, under license by the Webster Electric Company, Racine, Wisconsin. Established 1909.

*Old Timer

WEBSTER ELECTRIC
RACINE • WISCONSIN

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

Casler calls for Teamwork To combat Gas in New England

L. A. CASLER, public relations counsel, Oil-Heat Institute of America, Inc., speaking at the Fall Industry Luncheon of the Oil Heat Institute of New England, held in Boston on October 9, exhorted the oilburner industry to "work together as a team" to combat the inroads of natural gas in New England. His talk developed four main points and reviewed the economics of the petroleum industry, tracing the 143% growth in demand for distillate fuel from 1939 to 1949.

Referring to the growth of the oilburner industry selling against coal, which most times was cheaper than oil, he surmised that "the introduction of natural gas into New England may prove to be an overall blessing to the entire oilheating industry by equalizing national supply and demand. Natural gas will not spell doom to our industry —to the contrary, it will build up some muscle in the coming competition, bring about new efficiency, new economy and put some of that good old-fashioned sell back into the business."

Despite overall indecision on the part of major oil companies, Mr. Casler continued, the industry has been helped by the oil companies in Milwaukee, St. Louis, Baltimore, Washington and in Ohio, where the majors have contributed to advertising and promotion campaigns to sell oil heat. "The practical solution to our relationship with the major producers," he said, "lies in pointing up local conditions on a more or less uniform basis, with allocations for advertising and publicity based upon the gallonage in each market."

Before New England dealers can expect such cooperation, however, he pointed out, the industry itself must present a solid front, backed by a share of the dealer's own money.

Mr. Casler reiterated the importance of making every oilburner installation

as efficient and economical as possible to offset the admittedly "care-free heat" furnished by a properly installed and adequately service gas installation. "We must remember that every home owner who isn't getting his money's worth in oil heat is not only a potential natural gas customer, but a natural gas salesman as well," he reminded.

In other areas where natural gas has become a factor the oilheating industry has not been prevented from prospering, providing the industry has settled down to a concrete selling program, capitalizing on the good will it has earned and increasing this good will by improving equipment and service to customers. The answer to it all is simple, said Mr. Casler, affirming that natural gas competition can be met on an equal basis "By working together, combining our knowledge of our product and our markets, by pooling our resources in a program uniting the segments of our industry, from the producer of oil to the oil equipment dealer."

Selling is the key to the problem, he continued, and the kind of selling that faces the whole industry "begins with the supplier of oil and ends when the consumer is sold." Pointing to supply problems, magnified by the Korean situation, Mr. Casler concluded the long range prospects provide the industry with a vital challenge. He enumerated responsibilities as:

First, producers of heating oils must meet the need for adequate storage and distribution facilities, assuring present and potential users of adequate supplies where and when needed.

Second, manufacturers of oilheating equipment must organize and put into motion a publicity and advertising program selling the superior features of heating with oil.

Third, distributors of fueloil must know their markets and have adequate storage facilities to meet demand.

Fourth, oilheating equipment dealers must meet competition with efficient service organizations, a more than friendly interest in reducing heating costs, and their own hard-hitting advertising at the local level.

"All we have to remember," concluded Mr. Casler, "is the simple fact that the homeowner gets 'Better Heat with Oil Heat!' "

OT* SERVICEMAN SAYS—

One look at the trade mark

AND YOU KNOW YOU CAN DEPEND ON IT"

"I've always said, 'by their name you know them,' because I've learned in the field that certain brands of equipment are always dependable. I've found, for example, that when I use a Webster Electric transformer, I've saved myself and my customer trouble. I can depend upon it to start every time . . . it can be mounted on practically every type of equipment . . . it is easy to connect. From experience, I know that the Webster Electric trade mark on the outside means dependable quality on the inside. That's why it pays you to insist on Webster Electric transformers on every job."

Webster Electric Transformers are made by Webster Electric Company, Racine, Wisconsin. Established 1909.

*Old Timer

WEBSTER ELECTRIC

RACINE • WISCONSIN

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Steel usage Survey made By Warm Air Association

DURING SEPTEMBER the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, made a survey of steel usage for 1950 among its manufacturer members. Based on actual figures for 8 months and projections for the last 4 months of the year, with figures from manufacturer members transposed to industry figures, the Association estimated that during 1950 all manufacturers will have used 414,079 tons of hot and cold-rolled and galvanized sheets and that dealers will have required an additional 100,000 tons of galvanized sheets for their own fabricating work.

The complete report was presented to the National Production Authority at Washington on October 4 by the Task Group of the Association's recently appointed Warm Air Industry Emergency Committee. Members of the Task Group are: T. I. Byrd, Lau Blower Co.; E. A. Eichenberger, F. Meyer & Bro. Co.; W. L. McGrath, Williamson Heater Co.; C. J. Pearson, U. S. Register Co.; P. W. Scott, Affiliated Gas Equipment, Inc., and Frank Vaughn, Armstrong Furnace Co.

In presenting the report to Mr. John Haynes and two of his assistants at NPA, the Group argued the case for the warm air industry and stressed the essential services the industry renders to the public. The group offered an estimate of 800,000 furnaces which would be required in 1951, 300,000 units for new homes and 500,000 for replacements in the ten million homes where warm air systems now are installed. The Group concluded by urging that the industry be permitted to keep pace with the construction of dwelling units and with replacement requirements.

CHECK YOUR

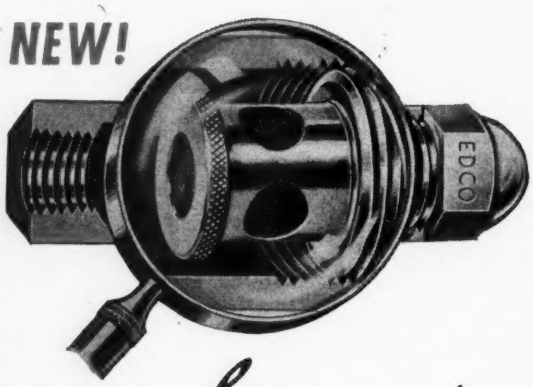
Eddington

NEEDS HERE

- ☐ FILTERS
- ☐ NOZZLES
- ☐ VALVES
- ☐ AIR-CONES & STABILIZERS
- ☐ STRAINERS
- ☐ ADAPTORS
- ☐ INSPECTION MIRRORS
- ☐ SERVICEMAN'S NOZZLE KITS

Complete information yours for the asking.

NEW!



Eddington

NOZZLE FILTER

removes final impurities

No more call backs for plugged nozzles! These new filters for all small capacity nozzles eliminate them completely. Fine solid particles are filtered out. Result: a clean nozzle, clean oil, a perfect spray pattern and *maximum combustion efficiency.*

PROTECT YOUR CUSTOMERS
SAVE EXTRA SERVICE CALLS

Eddington's S-252 FILTER

98 sq. in. filter area

Gives maximum protection against oil burner stoppage for more than a heating season.

Order Your Supply Today or Write for Literature

EDDINGTON METAL SPECIALTY COMPANY
1050 Czarnecki Street, Eddington, Pa.

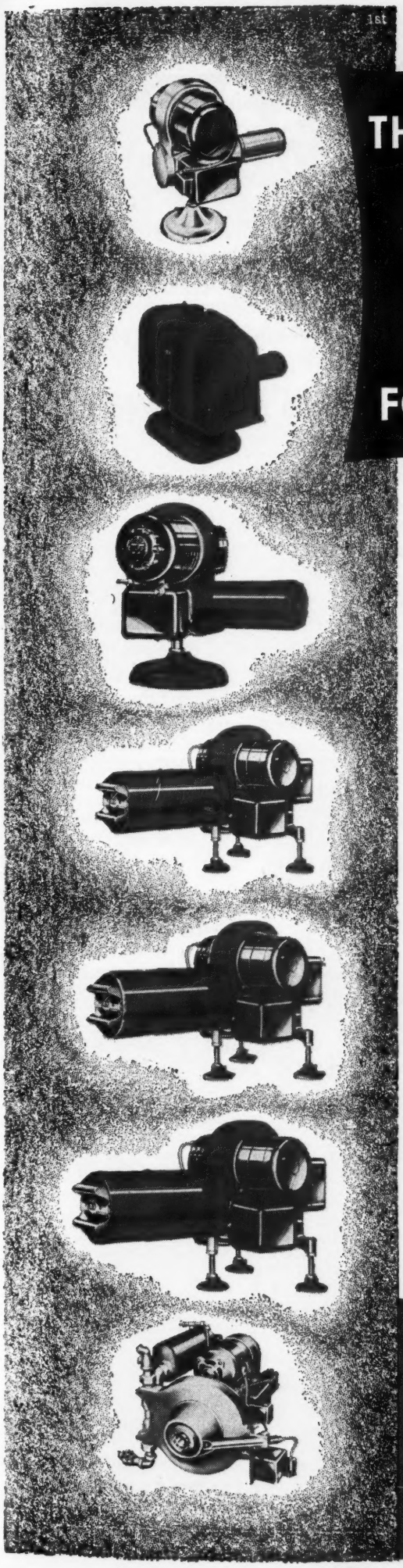
NYOHA Dinner-Dance Held at Commodore Hotel

THE ANNUAL DINNER-DANCE of the New York Oil Heating Association, Long Island City, N. Y., took place this year at the Commodore Hotel, New York, on November 4. The facilities of the hotel's Century Room were engaged for the affair, with music provided by Eli Dantzig and his orchestra. Dan Bierman supervised arrangements as chairman of the Association's entertainment committee.

Wisconsin Dealers hold Regular October Meeting

THE REGULAR MEETING of the Wisconsin Oil-Heat Association, Inc., Milwaukee 3, Wis., was held October 26 in the Colonial Room of the Wisconsin Hotel. It was preceded by a dinner, after which the meeting received the report of a nominating committee, selecting a slate for the annual election of officers to be held at the November 23 meeting.

As a special attraction, the Wisconsin Telephone Co. presented a movie, "Stepping along with Television," which opens with a family in its Waukesha, Wis., home viewing a telecast from New York. The picture then shows how the program originates in the studio and how it is transmitted through various channels by microwaves. J. F. Murtaugh, staff assistant,



THERE'S A Gilbarco OIL BURNER FOR EVERY HEATING JOB

No need to pass up any kind of business when you handle the Gilbarco line. You've got a burner to fit every oil heating job. With six models of gun-type burners from ¾ to 25 gallons per hour, plus industrial burners from 15 to 110, you can sell a Gilbarco installation that will do the work and do it superlatively well — whether it's a speculative builder's development of four-room houses or a five-hundred-room hotel.

MODEL GBS— Low priced for the builder market, but a completely reliable, *famous-name* burner.

MODEL GCN— For the large volume home-owner market. A distinctive new model featuring top performance, greater accessibility and improved protection.

MODEL GC1— For large homes and small commercial buildings which require from 2 to 4.25 gallons an hour.

MODEL GC3— A burner for the extensive commercial field which uses from 5 to 10 gallons an hour.

MODEL GC4— This is for the larger commercial and industrial jobs which need 9 to 14 gallons an hour.

MODEL GC5— For large buildings and industrial installations firing No. 2 oil at 12 to 25 gallons an hour.

HEAVY OIL MODELS— Fully automatic, semi-automatic and manual models firing Nos. 4, 5 and 6 oils at 15 to 110 gallons an hour.

And remember, all GC models are equipped with the patented and exclusive Economy-Clutch action—still the most powerful sales feature in the gun-type burner field today!

Line up with a complete burner and unit line that opens up to you the *whole* field of oil heating. Several valuable dealer franchises are open west of the Appalachians. A letter, wire or phone call will bring you complete information—fast!

WARM AIR CONDITIONERS—SUSPENDED & SURFACE FURNACES—CAST IRON & STEEL BOILERS

Gilbarco

THE OIL BURNER WITH THE ECONOMY CLUTCH

GILBERT & BARKER MFG. COMPANY

WEST SPRINGFIELD, MASS., AND TORONTO, CANADA

Customers Relation Department of the telephone company, used replicas of the Chicago telephone exchange and T-V towers to demonstrate actual operation of the system.

Massachusetts Dealers Hold October Meeting

THE 172D MEETING of the Massachusetts Oil Heating Association, Inc., Watertown 72, Mass., was held at the Hampton Court Hotel, Brookline on October 24. The meeting was preceded by the usual dinner, followed by a business session.

Principal speaker was H. Guy Smith, New England Home Equipment Dealer, who discussed "Holding the line on sales in 1950-51." His talk followed the showing of the Oil Industry Information Committee's movie, "24 Hours of Progress."

Prepare fuel costs Tables For Greater Washington Area

A SERIES OF TABLES, prepared by the Oil-Heat Institute of Greater Washington, Washington, D. C., contains breakdowns of the cost of natural gas for heating in the Greater Washington area, compared with the cost of No. 2 fueloil for the same purposes. Separate tables have been prepared for the District of Columbia, Maryland and Virginia for systems using conversion burners and complete units.

"don't be fooled Brother!"
OIL HEAT
COSTS MUCH LESS THAN GAS!
and WE can PROVE it!
The actual comparisons below, based on the F. H. A. formula method for heating average size homes in the Greater Washington area, show actual savings made possible by using OIL HEAT:
IF YOU LIVE IN THE VIRGINIA AREA
IF YOU LIVE IN THE DISTRICT OF COLUMBIA
IF YOU LIVE IN THE MARYLAND AREA
On Conversions the savings are 15% more than above
DON'T DELAY ANY LONGER—OIL HEAT IS AVAILABLE EVERYWHERE!
If you are building a new home see your architect or builder—consult him on the savings and many advantages of OIL HEAT. If you don't already have OIL HEAT in your present home phone the number below for free survey and estimate on conversion to OIL HEAT.
REMEMBER...OIL HEAT IS SAFER
MORE DEPENDABLE • AUTOMATIC
Published in the interests of the Public by the
OIL HEAT INSTITUTE of Greater Washington
412 5th Street, N. W.
Telephone: EX. 3905

A typical advertisement in the series sponsored by Washington, D. C., dealers to show comparative fuel costs of oil and gas.

The figures have been computed according to FHA's formula and have been used regularly in the Institute's newspaper and radio advertising. The cost sheets are offered to members to be used to convince present customers they should continue to use oil for heating and to demonstrate to prospects for new equipment the savings to be gained from installing an oilburner or unit.

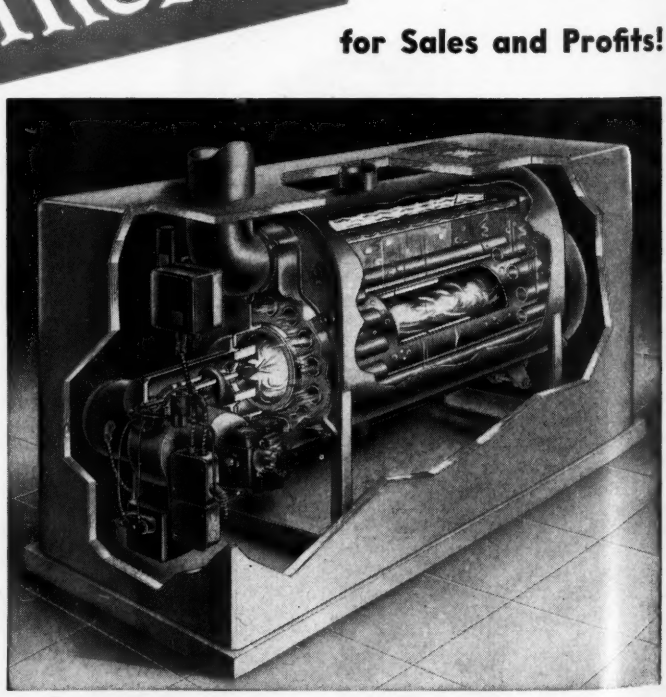
I-B-R Statistics show Increase in boiler Sales

SALES OF CAST-IRON BOILERS during the first six months of 1950 were 66.4% greater than the same period of 1949, according to statistics compiled by the Institute of Boiler and Radiator Manufacturers, New York, N. Y. The figures are based on reports submitted by I-B-R members, but they are believed to be representative of the industry.

Reflecting the continued trend toward automatic heating, 83.4% of all

The Bethlehem Crusade-a-therm

is a "Natural" for Sales and Profits!



THE PACKAGE UNIT THAT REPLACES BOTH THE OLD FURNACE AND HOT WATER PLANT

Here's the last word in home heating comfort and convenience! It's a compact, highly efficient, completely automatic package unit. From it you get quiet, clean heat and an ample, year-round supply of domestic hot water.

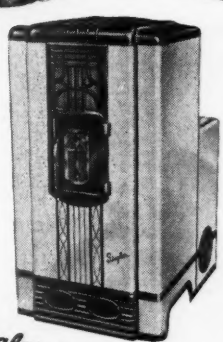
The C-liminator, an ingenious device by Bethlehem engineers is standard equipment on the Bethlehem Crusade-a-therm. It is an electrical delay switch that completely eliminates smoke on start. Yes, the Bethlehem Crusade-a-therm is designed and built to give lifetime service at a low, low cost.

BETHLEHEM FOUNDRY & MACHINE COMPANY
BETHLEHEM, PENNSYLVANIA

A few exclusive Bethlehem Crusade-a-therm territory Franchises are still available. Wire or write immediately for full information.

FASCO
FRACTIONAL H. P. MOTORS

...Help Siegler Produce Twice the Heat with Less Oil!



Siegler Oil Heater

Siegler Enamel Range Co., of Centralia, Ill., is famous throughout America for dependable, economical, efficient oil and gas heaters. The Siegler Oil Heater, for instance, provides heat by gravity circulation for mild weather conditions; or by forced hot air when a lot of heat is wanted quickly. A high quality FASCO motor powers the forced air assembly at any of three desired volumes . . . using less electric current than a 40-watt light bulb . . . producing twice the heat . . . and saving many dollars in fuel bills. The motor may be used continuously or intermittently for dependable peak performance results.

There's a complete line of FASCO Fractional H. P. shaded pole motors from 1/500 to 1/8 H. P. to help *you* improve your product, or pack maximum efficiency and economy into the design of your new one.

"Your comparison test, too, will prove FASCO best"

WRITE for complete information on FASCO Fractional H.P. Motors.

FASCO
INDUSTRIES, INC.
ROCHESTER 2, NEW YORK

Count on COASTAL

...Dependable Supply

...Time-Saving Facilities

...Profit-Building Assistance

OIL COASTAL COMPANY

EXECUTIVE OFFICES
60 Park Place, Newark 2, N. J.

fueloil & oil heat

boilers sold during the period were automatically fired, as compared with 28.9% in 1949 and 45.1% in 1946. The large volume of residential construction and the current popularity of panel and baseboard heating both were cited as reasons for the sharp increase in boiler sales.

New England Campaign to Feature "Symbol of Reliability"

A PUBLICITY DRIVE undertaken by the Oil-Heat Institute of New England, Inc., Boston, Mass., opened in Rhode Island in October with advertising appearing in local newspapers. The campaign was drawn up for several insertions each week, with plans to expand the program later to continue throughout New England. The Institute is financing the promotion, whose advertisements will feature the "Symbol of Reliability" displayed by dealer members of the group.

Fred N. Beckwith, executive secretary, explains the objective is to improve oilheating sales by popularizing use of the industry slogan, "Better heat with oil heat" and to acquaint more people with the identification seal of a member of the Institute.

Free promotional material offers to members include three sizes of three-color decalcomanias identifying members of the Institute, triangular stickers for affixing to mail and three sizes of electrotypes of the Institute seal for use on stationery and in local newspaper advertising.

ASME prepares Program For its annual Meeting

THE 1950 ANNUAL MEETING of the American Society of Mechanical Engineers, New York 18, N. Y., will be held November 27 to December 1 at New York's Hotel Statler. More than 200 papers will be delivered during 83 sessions, with the scope of the meeting encompassing the development of power, design of machines and the management of men for the exploitation of both. More than 7,500 engineers are expected to attend.

The ASME has taken under its auspices the National Power Show, being held concurrently in Grand Central Palace, New York.

Indiana district Meeting Takes place at Richmond

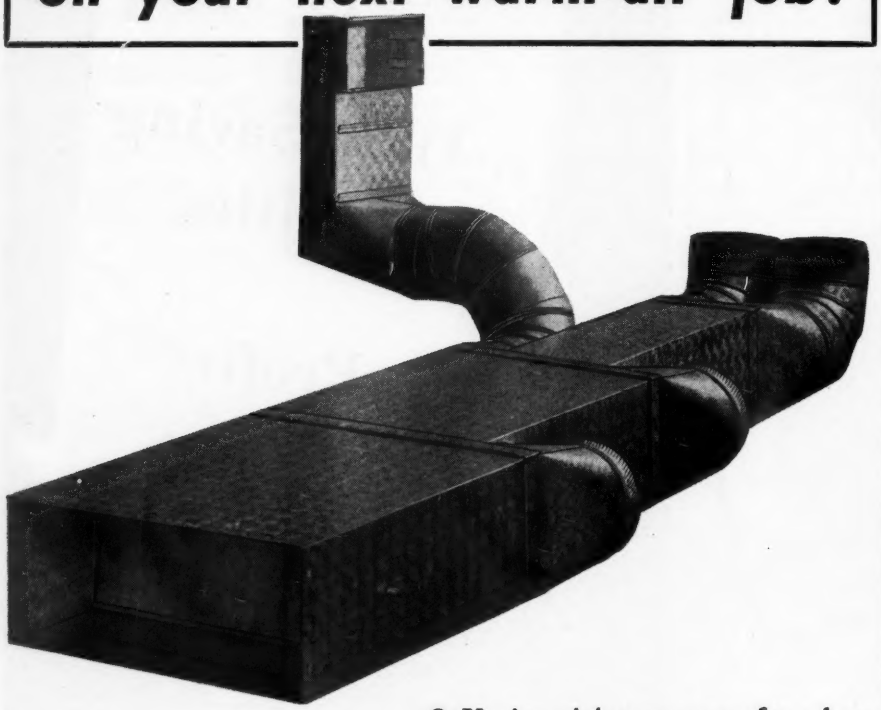
A DISTRICT MEETING, held by the Sheet Metal and Warm Air Heating Contractor's Association of Indiana, Inc., Terre Haute, Ind., was held on October 20 at Richmond. Invitation to the meeting was extended to both members and non-members to participate in the session, which included a "Freedom Forum." Four Richmond supply firms were co-sponsors of the meeting.

Milwaukee Rally for Oil Progress Week

A RALLY AND JAMBOREE, sponsored by the Milwaukee Oil Progress Week Committee, was held in Plankinton Hall, Milwaukee, Wis., on October 11. Its purpose was to provide dealers, their salesmen, truck drivers, servicemen and other employees, an evening of entertainment, explain the meaning of Oil Progress Week and its significance to them.

The program included a talk by William Gerwe, Socony-Vacuum Oil Co., Chicago and the oil industry

Keep ALL the Profits
on your next warm-air job!



● You're *giving away* profits whenever you "farm-out" the ductwork on your furnace installations. You can easily handle the complete job yourself with "Snap-Rite" prefabricated ducts and fittings. You don't need a sheet-metal shop or special equipment—the patented quick-locking feature of "Snap-Rite" ducts and fittings makes them easy to assemble.

Shown above is our most popular and simplified No. 160 line which consists of a square main trunk with round branch lines. This is accomplished through the use of our standard stock trunk pipe with "pre-notch" feature and our No. 160 round branch takeoff as illustrated, effecting a reduction in size of main trunk at each branch. This method produces a neat air-tight installation, low in cost and easy to balance.

Write for our catalog now and keep ALL the profits on your NEXT job!

GRAY METAL PRODUCTS, INC.

P. O. Box 1449 **Rochester, N. Y.**

Meet a new member of this fast-selling family...

the KO-Z-Aire 140 Winter Air Conditioner

THIS ruggedly-constructed, handsomely-finished 140 Series is KO-Z-AIRE's latest addition to the warm air heating line that's "stealing the show" with both dealers and home-owners.

For here, as in all models, KO-Z-AIRE engineers have outdone themselves to give you faster, easier sales, incorporating smart Advance Design styling into a factory-assembled, easy-to-install unit, with automatic controls, one piece, dust-leak proof welded steel base, and removable clean-out panels.

And you'll find a full range of sizes in both gas and oil-fired gravity and forced air equipment priced to sell — backed by new marketing policies which assure faster, more experienced service to distributors and dealers.

Much else goes with KO-Z-AIRE units to assure dependable, trouble-free, economical operation—minimized servicing problems. So, better not stop with looking, better send today for complete details about KO-Z-AIRE's Progressive Profit Program for dealers. Sure as sunrise, you'll be money ahead in years to come.

Gas and Oil Fired Units from 70,000 to 450,000 BTU Input Available. Some Choice Dealer and Distributor Territories Still Open . . . Write Today!

KO-Z-AIRE®

KO-Z-AIRE, Inc., Dept. FO-11, GENERAL OFFICES — RED OAK, IOWA • REPRESENTATIVES IN PRINCIPAL CITIES

movie, "24 Hours of Progress." Entertainment consisted of a varied array of stage, screen and radio performers, with a buffet supper following.

The employees were guests for the evening, the nominal charge for each being defrayed by the companies.

API issues Booklet on "Facts about Oil"

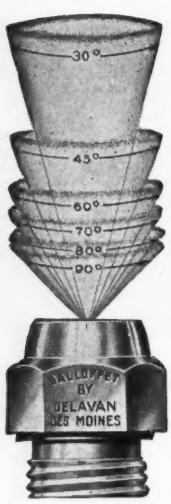
"FACTS ABOUT OIL," title of a booklet issued by American Petroleum Institute, New York 20, N. Y., has been compiled as a reference and source of background material. It is not intended to be a narrative story of petroleum, but instead is to be used by speakers and others who need a handy, convenient guide for cross-checking or developing statistics about petroleum.

Statistical information has been departmentalized under headings of exploration, drilling, production, reserves, transportation, refining, supply and demand, marketing, uses of oil, cost factors and oil and national security. Each subject has been treated as a unit so that information can be located readily. Each unit can be lifted bodily or expanded as needed.

The books are available from API's office at 50 West 50th St., New York 20. All facts are offered for use with or without credit to the Institute.

THERE'S A REASON...

why so many oil burner manufacturers and servicemen turn to Delavan for the solution of their nozzle problems.



GET THE FACTS

WRITE for "Nozzles—the Key to Combustion" reprinted from September Fuel Oil & Oil Heat

DELAVAN MANUFACTURING CO.

3009 SIXTH AVE., DES MOINES 13, IOWA

OHI

Jameson named assistant To the President, IPAA

MINOR S. JAMESON, JR., who has been its economist since 1937, was named assistant to the president of the Independent Petroleum Association of America, Tulsa, Okla., at its annual meeting in St. Louis. J. E. Warren, president, explained the newly-created post was necessitated by the increasing activity of the association and the broader scope of independent oil industry problems.

New assignments to Mr. Jameson will require frequent conferences with other officials of the group. He is located in IPAA's Washington office.

Milwaukee Oil Men's Club Holds semi-annual Party

THE SEMI-ANNUAL DINNER PARTY of the Milwaukee Oil Men's Club's Milwaukee, Wis., was held on October 16 at the Hotel Schroeder. The dinner featured entertainment, preceded by a cocktail hour. The speaker was Hon. Josef A. Schmutz, billed as the former high commissioner to Latmania, who asked the assemblage, "Where Are We Going?" Members and guests were invited to attend.

Ask larger Subscriptions At PHIB annual Meeting

AT THE ANNUAL MEETING of the Plumbing and Heating Industries Bureau, held in Chicago on October 5, pleas were heard to increase subscriptions to permit an enlarged and representative educational program.

Jack Cooper, president, Harry Cooper Supply Co., Springfield, Mo., was elected president; Arnold H. Goelz, vice-president; Earl E. Brown, treasurer and Norman J. Radder was re-named secretary. New directors include E. M. Palmer, vice-president Kewanee Boiler Corp., representing Steel Boiler Institute and E. R. Westphal, Weil-McLain Co., representing the Institute of Boiler and Radiator Manufacturers. Among directors re-elected

Sentry

AT-A-GLANCE

REMOTE and DIRECT READING

TANK GAUGES

FOR BASEMENT TANKS: Type D-O for 2" openings, Type D-10 for 1½" openings.

For accurate, easy reading of tanks — indoors, outside or underground.

FOR UNDERGROUND TANKS: Type D-U, shown at right, for 2" openings only.

Left: Standard type At-A-Glance Gauge for direct reading at storage tank. Also available with special fitting for use and adaptation with remote gauge indicators to permit dual readings — both at tank and outside.

Dependable, Inexpensive, Weatherproof... Simple Mechanical GAUGES, Easy to Install

Accurately indicates liquid level in remote storage tanks at all times — Not affected by specific gravity oil changes or variations. Simplified mechanical operation eliminates unnecessary fittings, bulbs or levers for oil men to tamper with — no need for access to building. Can be installed for dual location readings — *indoors and out*. Non-corrosive stainless steel and brass extension lines connect tank float with cast aluminum, weatherproof, thermometer type indicator — calibrated in fractions. Easy to read, unconditionally guaranteed. Write for folder showing complete line.

KRUEGER *Sentry* GAUGES

GREEN BAY • WISCONSIN

---

the **FASTEST - STEAMING BOILER MADE**

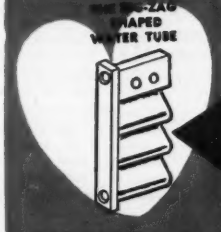
Koven WATERFILM

for quick heat at low cost

Because its exclusive construction makes it the fastest-steaming boiler made, Waterfilm gives your customers exceptionally quick heat and efficient performance. The KOVEN Waterfilm Boiler saves fuel and money, too—gives even heat—supplies plenty of domestic hot water.

Recommended by leading architects and builders, Waterfilm is available in sizes and models for small homes, apartments, and industrial buildings. For large installations, remember that the Sectional Boiler can be taken through a 2-foot door. 500-17,850 E. D. R. NATIONALLY ADVERTISED. Write for free literature and newspaper mats.

Patented Construction
Quick-Steaming
Prevents Accumulation of Soot
Economical
Rugged Construction
Easily Replaced



In this tube only a ¼" film of water has to boil to produce steam — thus heat starts rising long before the main body of water in the tank is even warm.

WATERFILM BOILERS, Inc.
A Division of L. O. Koven & Bro., Inc.
154 Ogden Ave., Jersey City 7, N. J.
Plants: Jersey City, N. J. Dover, N. J.

EVEN ROOM TEMPERATURE THROUGHOUT THE HOUSE.

FOR AUTOMATIC FIRING WITH OIL STOKER OR GAS

NOW a complete line of modern MARLOW PUMPS for the petroleum marketer!

A MARLOW FOR EVERY PUMPING JOB

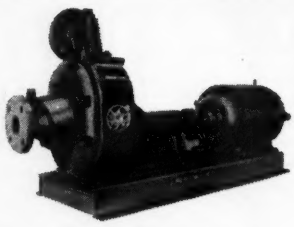
MARLOW CENTRIFUGAL PUMPS

Marlow Type SC

For high capacity and high efficiency in pumping light liquids on flooded suction installations. Close and long-coupled models, sizes 1 to 4 inches, capacities 10 to 1000 GPM. Features include an easily renewable sealing ring at impeller inlet, deep-groove oversize ball bearings, and a John Crane dripless shaft seal. Motors from ½ to 30 HP. Explosion proof or fully enclosed.

MARLOW SELF-PRIMING CENTRIFUGAL PUMPS

The only light-liquids pump for long, trouble-free service on suction lifts. Marlow Self-Primers offer high capacity and high efficiency with *automatic priming*. Suitable for underground storage or for transfer or loading operations. Close and long-coupled models, sizes 1½ to 10 inches, capacities 15 to 3500 GPM. Self-priming, self-purging design assures automatic priming and freedom from vapor lock. Free clearances at impeller help eliminate wear, prolong life and original high efficiency. Motors ⅓ to 60 HP, explosion proof or fully enclosed.

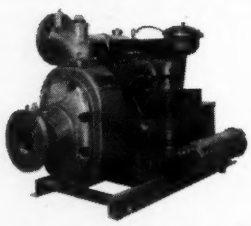


Marlow Type EL

Models also available for belt and engine drive and for high pressure service.

GEAR INCREASER PUMPS

NOW — a *quiet*, dependable centrifugal tank truck pump that couples direct to power take-off. Installs like a rotary but has a centrifugal's smooth efficiency, high capacity and *long life*. Sizes 2 and 3 inch. Capacities 20 to 200 GPM.



ENGINE DRIVEN PUMPS

Marlow Self-Priming Centrifugals for refueling or transfer, where mobility or stand-by operation is required. Sizes 1½ to 8 inches. Capacities 15 to 2000 GPM. 2- and 3-inch sizes available with electric starter and spark arresting muffler for tank truck service.

Wherever pump users gather you will hear the name MARLOW used as a standard of pump efficiency, trouble-freedom and long life. It will pay you, too, to standardize on the standard.

Write the Marlow factory for complete information and the name of the Marlow dealer nearest you.

MARLOW PUMPS

598 Greenwood Avenue, Ridgewood, New Jersey

MANUFACTURERS OF QUALITY PUMPS SINCE 1924

were: Harry F. Beglen, American Radiator & Standard Sanitary Corp., Chicago, representing American-Standard; E. A. Cline, Trane Co., representing the Convector Manufacturers Association; John M. Dumser, Chase Brass & Copper Co., representing the Copper and Brass Research Association; Arnold H. Goelz, Kroeschell Eng. Co., representing Heating, Piping and Air Conditioning Contractors National Association; Earl J. Gossett, Bell & Gossett Co., representing Hot Water Heating Specialties Manufacturers; C. E. Lewis, Perfex Corp., representing Oil-Heat Institute of America, Inc.

A retirement plan for the staff of the Bureau, presented by a committee headed by E. J. Gossett, was adopted.

Retiring president George O. Toepfer, president The Maag Co., contrasted the operation of the Bureau on a budget that totals $50,000 with the much larger public relations budgets of other trade associations. Admitting that some of these groups had a larger annual volume of business, Mr. Toepfer maintained there still was a wide discrepancy between the public expenditures of the plumbing and heating industries and those of other industries competing for a share of the consumer's dollar. He said he was recommending that his branch of the industry increase its support and advised the new administration to institute a general increase in subscriptions.

His sentiments were echoed by D. D. Couch, chairman of the Bureau's Finance Committee and Earl E. Brown, its treasurer.

Mr. Radder in his report as secretary summarized the year's activities, and described the large amount of articles, pictures and information on plumbing and heating that had been prepared by the Bureau for newspapers, magazines and radio stations.

❖

John M. Dooley has been named sales representative in eastern Tennessee by National Radiator Co., Johnstown, Pa. Mr. Dooley, who will be associated with the company's branch sales office at Richmond, Va., since 1945 was an electrical engineer on the staff of the Knoxville utilities board.

There's a lot of TOMORROW in a HEIL Tank TODAY!

HEIL *CRUISER* TANKS are designed for city delivery of gas, fuel oil, or both. For fuel-oil delivery, the pump, hose reel and meter are located in the weatherproof, right-side compartment. In summer, this equipment is easily removed and the space used for package goods and other items. *Available for immediate delivery in capacities from 1500 to 2100 gallons.*

Divide first-cost dollars by years of performance and you're always ahead with HEIL

By whatever standards you judge the merits of transportation tanks — appearance, performance, safety, stamina — Heil is *able* to give you more for your money — *and does.*

With tireless research, special techniques and precision equipment, Heil has pioneered practically every important advancement in liquid transportation for over 47 years. The Heil one-piece, integrally-welded, boltless truck tank design, for example, successfully reduced weight by as much as 15%.

Naturally it costs more to build a tank with Heil quality features. But if they are not built into the tank in the first place, *you'll pay for them later anyway* — in maintenance expense, lost time and shorter operating life.

There can be no finer tribute to the dependable profit-making performance of Heil tanks than the fact that *three out of four Heil tank sales are repeat sales to satisfied users.*

If your information on truck tanks is more than six months old, *get the facts now!* Send for illustrated booklet showing the wide range of Heil tank styles and sizes to meet the exact requirements of every type of petroleum products marketing operation.

THE HEIL CO.

DEPT. 40110, 3040 WEST MONTANA STREET, MILWAUKEE 1, WISCONSIN

Factories: Milwaukee — Hillside, N. J.

District Offices: Hillside, Washington, D. C., Atlanta, Milwaukee, Detroit, Chicago, Minneapolis, Kansas City, Dallas, Los Angeles, Seattle

HEIL *WHIPPET* TANKS are designed for the local delivery of fuel oil. Weatherproof rear cabinet is integral with tank shell, deep enough to house hose reel and meter equipment. Also supplied with cabinets on one or both sides. *Available for immediate delivery in capacities from 1000 to 1600 gallons.*

HEIL *METEOR JR.* TANKS are primarily rural delivery units in which mixed loads of such products as gasoline, kerosene, diesel oil, and fuel oil may be delivered simultaneously. They are also commonly used for city delivery. *Available for immediate delivery in capacities from 800 to 1200 gallons.*

Manufacturers Activities

Waterbury electric Sign For outdoor Display

AN UNBREAKABLE Plastilux electric sign available to Waterbury dealers from Waterman-Waterbury Co., Minneapolis, Minn., affords illumination on two sides and measures 4 ft. by 2 ft. It is furnished complete with hardware and draws only 66 watts.

The sign identifies the dealer as an authorized dealer for Waterbury furnaces and air conditioners and provides space at the bottom for addition of the dealer's name.

Rochester names Hannay To handle Mak-Saf Switches

ARRANGEMENTS have been completed for the national distribution of Mak-Saf electrical safety system by Clifford B. Hannay & Son, Inc., Westerlo, N. Y., makers of Hannay hose reels.

The Mak-Saf system is a product of Rochester Mfg. Co., Rochester 10, N. Y., designed for truck transports carrying petroleum products. It functions not only as a safety device but also checks for short circuits before they cause trouble. Simultaneously with the battery circuit the generator circuit is broken so that in case of defective generator or regulator operation the vehicle can be driven in to an overhaul depot.

Cromwell Printery issues Catalog of Fueloil Forms

A NEW CATALOG, available from Cromwell Printery, Inc., Albany, N. Y., contains a complete line of printed forms and promotion pieces for the fueloil dealer. Envelopes, invoices, letterheads and statements are some of the office stationery forms in which the company specializes, along with blotters, acceptance cards, and business cards which the dealer will find useful.

Featured are a complete line of meter tickets for all makes, available in two and three part forms. These are offered in standard types with space provided for dealer imprint and other copy. Also, the catalog shows a variety of standard fueloil trade mark cuts that can be used on the meter tickets and other printed matter.

Included also are caution and emergency burner signs, as well as driver's record sheets and tank charts, furnished in black with red imprints.

Lennox sales Increase Coincides with Campaign

AN AGGRESSIVE merchandising campaign launched by Lennox Furnace Co., Marshalltown, Ia., spearheaded by national advertising appearing regularly in 11 national magazines is given credit for a 115% increase in its shipments to dealers during the first six months this year. This increase is more than twice the percentage increase of the warm air heating industry as a whole.

E. R. Champion, Lennox's merchandising manager, says the campaign has been particularly successful in areas where Lennox dealers have used local advertising to tie-in with the national program. He also pointed out that the increase was registered before the Korean crisis effected sales, but that

Fulflo FILTERS
REG. U.S. PAT. OFF.
They lead in sales because they lead in performance!
The outstanding sales leadership of FULFLO FILTERS is due to the outstanding performance of their HONEYCOMB FILTER TUBES.
Cellular structure provides inner storage space for separated impurities . . . prevents blinding by surface loading . . . gives greatly increased tube-life.
Precision-controlled, true depth filtration of tapered density filters every drop again and again . . . finer and finer . . . to microscopic clarity.
STOP COSTLY SERVICE CALLS WITH FULFLO FILTERS
RF4 HONEYCOMB REPLACEMENT TUBE
Precision-controlled density . . .
Every drop filtered again and again
Most widely available
of all Oil-Burner Elements . . .
Fits all 4-inch FULFLO FILTERS
IF YOUR JOBBER CAN'T SUPPLY YOU WRITE OR WIRE US
COMMERCIAL FILTERS CORPORATION
BOSTON 27, MASSACHUSETTS

one of the OLDEST names makes the BOLDEST claims:

LP fire from HP burner!

Hart's revolutionary new Super-Fire head gives you the best features of high and low pressure burners for small fires (0.65 to 1.50 GPH). You'll have to see it to believe it, but Super-Fire's secret is:

Four-Way Fan Air Control WITHOUT ADJUSTMENTS

1. *Positive direction* of whirling fan air in wide angle across air tube mouth.

2. *High velocity* at outer edge of air stream forces intimate oil-air mixture.

3. *Low velocity* air at center of air stream is "sucked" into combustion mixture.

4. *Volumetric ratio* of high and low velocity air always constant, self-compensating.

imagine these *Advantages*

1. CO_2 readings 10.5 to 12.5% without smokiness.
2. Utterly smooth starting—even on balanced draft.
3. Unbelievably silent in operation (even quieter than LP!).
4. Absolutely pulsationless in any normal draft.
5. Creates slow-burning, lazy, curly flame having the hot, shapeless incandescence so desirable for low stack temperatures and clean interiors.
6. No gadgets! Responds instantly to usual fan intake adjustment. No worry about critical ignition clearances.
7. Advanced Engineering. Super-Fire results from over 20 years experience building low pressure burners.
8. Makes a demonstration that closes sales on the spot!

YOU can prove OUR claims! DON'T ask for a Hart franchise now. But order one of these new Hart burners with Super-Fire head. Set it up and fire it this winter. Check it against our claims; give it any instrument tests you like. We're betting that next year YOU'LL want to sell HART. Your territory may be available.

HART HEAT

Division of Avery Farm Machinery Co.

2006 S. Washington
Peoria, Ill.

"SCOTTY FIELD" SUPER SALESMAN

FUEL ECONOMY STORY SELLS FIELD DRAFT CONTROLS FAST

DEALERS: For fast sales display your Field Barometric Draft Controls prominently. Their dramatic FUEL SAVING story makes them best-sellers, self-sellers!

A Field Barometric Draft Control improves the performance of any heating plant—provides for lower fuel consumption, increased safety, longer plant life. That's why dealers find it profitable and easy to sell the efficient, durable Field Barometric Draft Control. Write today for complete information on the Field Barometric Draft Control line.

On The Finest Heating Equipment Field Controls The Draft.

FIELD BAROMETRIC DRAFT CONTROLS

FIELD CONTROL DIVISION
M. D. CONEY & COMPANY BENDOTA, ILLINOIS

AFFILIATES:
CONCO MATERIALS HANDLING DIVISION
CRANES—HOISTS

Field REGISTERED

AFFILIATES:
CONCO BUILDING PRODUCTS, INC.
BRICK—TILE—STONE

BAROMETRIC DRAFT CONTROLS

See our exhibit at the 50th International Heating & Ventilating Exposition, Commercial Museum, Philadelphia—January 22 to 26, 1951. Space No. 708.

the campaign's effect was to spread out sales volume more evenly, levelling the traditional seasonal peak.

Land elected Head Of Walker Mfg. Co.

AT A REORGANIZATION MEETING of the Walker Mfg. & Sales Corp., St. Joseph, Mo., M. O. Land was elected president. He had previously served in that capacity from 1932 until 1938 and since then until his re-election was treasurer of the firm. Upon the death of R. A. Walker in June of this year, Mr. Land and his associates purchased the entire interests of the Walker estate, as well as the remaining interest of the late W. F. Kirkpatrick, and now operate as sole owners and successors to the Walker Mfg. Co. Other officers elected were: W. J. Barnes, vice-president; R. L. Douglas, secretary and Lakin Meade, treasurer.

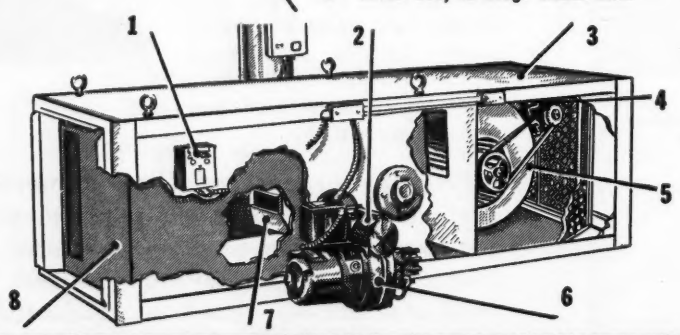
The company was organized in 1932 for the exclusive manufacture of the draft regulator which Mr. Walker invented, and manufacture of the device, according to Mr. Land, will continue as the chief concern of the company. Plans are under consideration to increase production and maintain quality and performance by the introduction of new standards of manufacture and distribution. All department heads and key personnel have been retained.

Profit with PERFECTAIRE
Oil-Fired SUSPENDED FURNACE

Supplement your Furnace line with this Versatile, Expertly-Engineered Horizontal Unit with

8 DEFINITE POINTS OF SUPERIORITY!

1. Adequate Safety Wiring
2. Easy to Service
3. Shipped as Packaged Unit
4. Resilient Mounted Motors
5. Quiet Operating Blower
6. Approved Oil Burner with Two-Stage Pump
7. Stainless Steel Combustion Chamber
8. Heater Body 12 Gauge Carbon Steel



3 MODELS
B.T.U. Capacities
110,000 to 450,000

DISTRIBUTORSHIPS AVAILABLE
Write For Complete Details ...
Catalog No. 5-40

Ideally Suited For:
Gymnesiums
Bowling Alleys
Restaurants
Temporary Heat in Construction Work
Warehouses
Show Rooms
Factories
Public Halls
Airplane Hangars
Garages
Homes—with and without Basements
Greenhouses
Super Markets
Service Stations

AIR CONDITIONING ENGINEERING CO.
44 First Street, Cambridge, Mass.
Please send data on PERFECTAIRE Unit.
We are interested in Distributorship
for: TERRITORY .....
COMPANY .....
STREET .....
CITY ..... STATE .....
ATTENTION OF .....

Sid Harvey conducts Fuel unit service School

A FUEL UNIT SERVICE SCHOOL was sponsored by Sid Harvey, Inc., Valley Stream, N. Y., held on October 18 in the local American Legion Hall. B. L. Douglass, general service manager, Sundstrand Machine Tool Co., conducted the evening session, which aimed at explaining the latest methods in overcoming pulsation, hum, after-drip and air leak complaints.

Automatic Products acquires Canadian manufacturing Plant

ACQUISITION of a plant in Cooksville, Ontario has been announced by Automatic Products Co., Milwaukee, Wis. The first plant of its kind in Canada, it will be used for the manufacture and assembly of gravity-fed oilburner controls, commercial refrigeration controls and, eventually, gas controls.

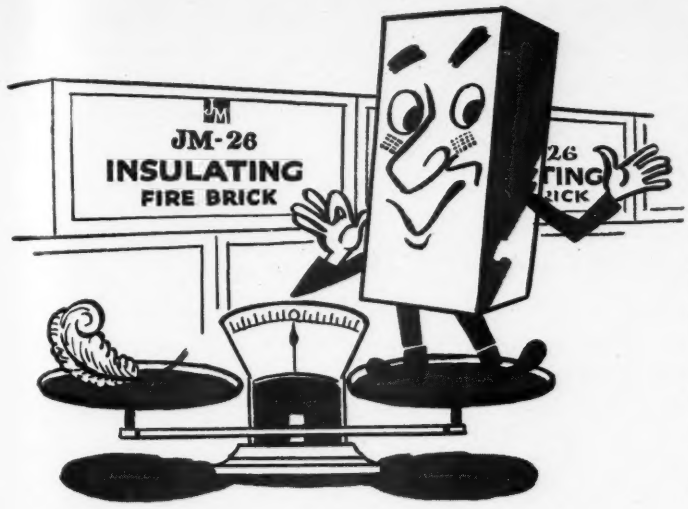
Remy H. Ludwig, recently appointed Canadian manager, will direct operations. This is the first plant the firm has purchased outside Milwaukee.

General Controls adds New field Engineers

FURTHER EXPANSION of its growing sales and service facilities has been announced by General Controls, Glendale, Calif. R. D. Hollingsworth has been added to the staff and will cover the Cleveland, Buffalo and Cincinnati trade territory. J. B. Miller will headquarter in Washington and call on various Government agencies.

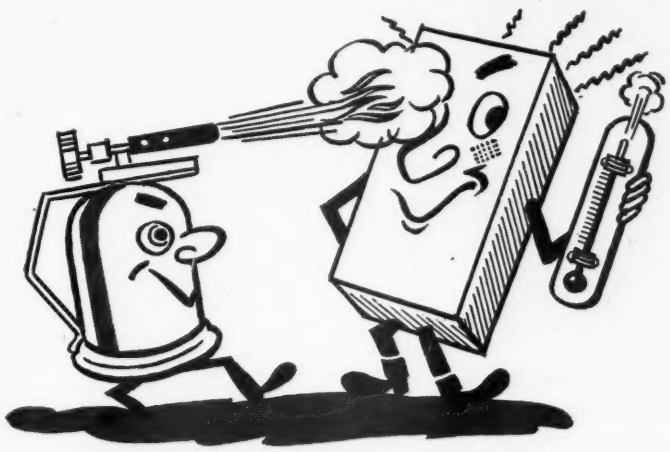
Queen Stove purchases American Gas Machine Co.

PURCHASE of controlling interest in the American Gas Machine Co. has been announced by the Queen Stove Works, Inc., Albert Lea, Minn. Eighty percent of American's stock has been purchased already and an offer made to buy up other outstanding shares. Former officers of American Gas Ma-

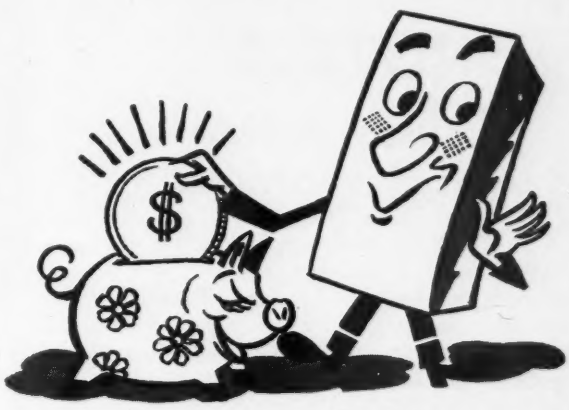


I'm a light-weight
insulation . . .

installed as
quick as a wink;



get the firebox
hot in a hurry . . .



and cost a lot less
than you think!

That's why Johns-Manville Insulating Fire Brick is a profit maker for you . . . a money saver for your customers

Oil burner men everywhere acclaim the ease with which square, round, oval or pear-shaped fireboxes can be built with light-weight J-M Insulating Fire Brick. Any desired cut or shape can be readily made with an ordinary hacksaw blade.

Then, for firm tight joints J-M Insulating Fire Brick is dipped into J-M 1626 Bonding Cement and rubbed into place. Spaces behind are filled with J-M Dobfill and the job is done.

Your customers benefit, too—Laboratory tests prove that J-M Insulating Fire Brick saves up to 10¢ on every dollar spent for fuel. That's because this brick provides the firebox with a skin-deep curtain of white-heat intensity within seconds. This speed in reaching peak operating efficiency does away with wasteful fuel burning required to heat up dense fire brick.

Use of J-M Insulating Fire Brick also results in far less soot, smoke and odor . . . in addition to much quieter oil burner operation.

Recommended J-M Insulating Fire Brick for oil burner fireboxes: JM-20, JM-23, JM-26, JM-28—and for industrial use, the new JM-3000. For further information see your J-M Distributor or write Johns-Manville, Box 290, New York 16, New York. In Canada, 199 Bay Street, Toronto, Ontario.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville INSULATING FIRE BRICK

"For Skin Heat in Seconds" in Fireboxes

fuelóil & oil heat

chine Co. have resigned and a new board named, consisting of: F. A. Trow, president; R. C. Trow, vice president; C. E. Holmquist, secretary-treasurer; R. A. Trow, R. D. Putman, B. O. Knudson, directors. John W. Baillie, former president of American, has been named chairman of the board. Other personnel changes include the appointment of R. D. Putman as advertising and sales manager and A. L. Johnson, Jr., director of sales.

American will continue to be operated as a separate company, with its products distributed through the existing distributor organization. Plans are being formulated to strengthen the lines and the sales and distribution organization, along with increased advertising and promotional activities.

Eureka Williams reports Higher Sales and Earnings

A STATEMENT covering the fiscal year ended July 31 for Eureka Williams Corp., Bloomington, Ill., tells of net earnings of $231,894, after provisions for federal taxes of $150,000. This contrasted with a net loss of $1,097,731, before a tax credit of $415,000, during the last fiscal year. Sales this year for all products amounted to $10,700,000, compared with $7,400,000 last year.

President H. W. Burritt, commenting on the activities of the Williams Div., pointed out that business in the oilburner industry has improved generally, but that Williams' success had been furthered by the introduction of new lines during the summer of 1949 and an enlargement of its selling organization.

Meyer Booklet designed To sell Consumers warm Air

A BOOKLET, entitled "How to Plan Home Heating," has been prepared by the Meyer Furnace Co., Peoria, Ill., designed to be used by dealers to sell warm air heating to their customers. The first few pages of the 20-page booklet are written in narrative form to explain heating equipment in general, followed by a page explaining the principles and advantages of continuous air circulation.

The center spread is devoted to a display of Weir-Meyer furnace equipment, including models for coal, gas and oilfiring, accompanied by a brief description of the company's background. Hints are included on how users can improve the operation of their heating systems, with final pages devoted to a shortened method of figuring heat losses, plus a chart on which the compilations can be made.

The company reports that dealers find the book useful to distribute to prospects at exhibits, homes shows and similar functions and to mail to tentative prospects, such as those who have taken out building permits.

Honeywell "Parade of Progress" Being shown in sixty Cities

A TRAVELLING SHOW, the "Parade of Progress," is being sent by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. on a tour that will cover more than 60 cities. The tour was launched in Rochester, N. Y. in October and will be concluded in the spring of 1952. Purpose of the show is to demonstrate the latest electronic, electric and pneumatic control systems in

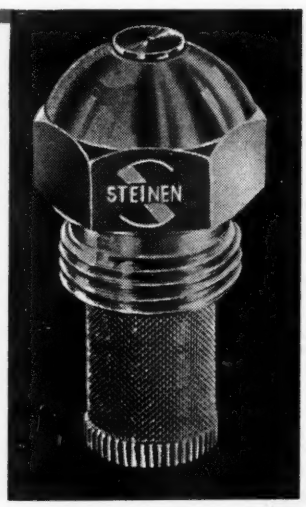
STEINEN

Mirror Finish

NOZZLE

Assures Better Burner Performance

1. Mirror finish causes heat deflection and prevents carbon collection.
2. Micro-atomized spray for intensified heat.
3. Uniform shutoff.
4. Nozzles are interchangeable for different types of burners.
5. Each nozzle individually tested to assure accuracy of rated capacity.
6. Made in hollow and solid spray types.



Metal stampings and screw machine products of all kinds such as air bands, air shutters, bushings, adapters, etc. made to your specifications.

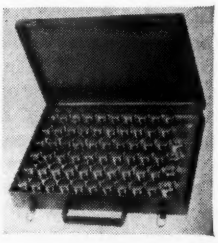
NOZZLE AND TOOL KIT

A real "must" for every installation and service man. Heavy steel box contains a metal tray that holds 22 nozzles in plastic containers, 3 adapters, a vial of additional strainers and one of cleaning sticks. Tool compartment equipped with one 1/4" MPT pressure gage with 1/8" adapter, one offset wrench, 5/8" and 3/4"; one screw driver, one nozzle brush, one nozzle jig. Kits can also be supplied with any combination of above items.

NOZZLE KIT

Contains

60 Nozzles
4 Adapters
Nozzle Jig
Light Weight
Metal Tray



WILLIAM STEINEN MFG. CO.

43 Bruen Street • Newark 5, N. J.

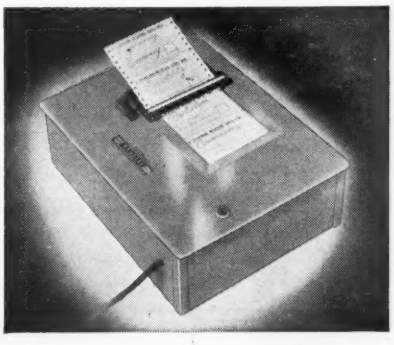
STEINEN THE SEAL OF QUALITY PRODUCTS

MASTER KEY to Profit Control... Simplified Systems

Get this *FREE HELP* in applying simple forms to *YOUR* business

Here is the system "know how" of your business. In the fact-filled pages of BUSINESS AIDS, outstanding dealers tell in their own words how they secure PROTECTION against profit-leaks, losses, mistakes, delays and disputes through complete, accurate and efficient records of every transaction.

An Ohio fuel-oil supply company, for instance, explains how the use of CONSECUTIVELY NUMBERED *Unit Zipset* Meter Checks give positive CONTROL. The system insures indisputable records of *every* truck delivery: for the customer; for perpetual inventory; for simpler invoicing.



The Standard Electric Form Flow Register. Fully automatic! Write, touch a button, that's all! Hundreds of other models—desk, counter and portable, for every record need in business.

GET THIS HELP . . . NOW

BUSINESS AIDS is packed with the practical system experience of leaders in your line of business. Let us send your copy FREE. Standard's nearby Representative, skilled in Paperwork Simplification, can help design and apply the most efficient forms and method of writing to suit your exact need: A FORM FLOW REGISTER . . . UNIT ZIPSET . . . or KANT-SLIP Continuous Forms (typewriter) System.

MAIL THIS TODAY!

The Standard Register Company
4211 Campbell Street, Dayton 1, Ohio

Please send me, without obligation, BUSINESS AIDS, containing practical-experience articles on systems and forms as used in our business.

Name_____

Company_____

Street Address_____

City_____ Zone_____ State_____

Standard Register

Originator of Pin-Wheel Feed and Marginally Punched Continuous Forms

THE STANDARD REGISTER COMPANY, 4211 CAMPBELL STREET, DAYTON 1, OHIO
PACIFIC COAST: Sunset McKee-Standard Register Sales Company, Oakland 6, California.
CANADA: R. L. Crain Limited, Ottawa. GREAT BRITAIN: W. H. Smith & Son, Ltd., London.

Exterior view *of the new office and building of George A. Chivvis Sons, Lindenhurst, N. Y., opened on September 16 as a Long Island outlet for Renick & Mahoney, Inc. Grouped together at the opening, l. to r. are August Schramm, president of Renick & Mahoney; J. A. Kuhland, New Jersey representative; Arthur Schramm, vice president and treasurer; Robert Moog, New York representative, George D. Roper Corp.; Ray Comp, sales manager, Buckeye Iron and Brass Works; William Maurer, R&M's Long Island representative; Herbert Hupfer, Roxen Utilities, Oceanside, N. Y. and Howard Clanton, Brookside Utilities Co., Valley Stream, N. Y.*

A NEW
Kresky Achievement!
THE KRESKY
"50-30"
OIL FLOOR FURNACE

Kresky, and only *Kresky*, can deliver so much heat from such a small package.

1. A BTU output of 52,700. (commercial standards CS-113)
2. Outside dimensions only 24 inches wide, 30 inches long, 30 inches deep.
3. Choice of flat or dual wall registers.
4. Automatic Thermostatic controls (or manual control if preferred).
5. Maximum oil consumption less than 2 pints per hour.

Kresky Designed the 50-30 At Your Customers' Request

Your customers asked Kresky for a smaller, more powerful, more economical floor furnace. The oil heating industry said it was impossible. But Kresky research not only met, but exceeded the public request. *Listed Underwriters Laboratories, Inc.*

Kresky Dealers Always Have Products That Meet Public Wants

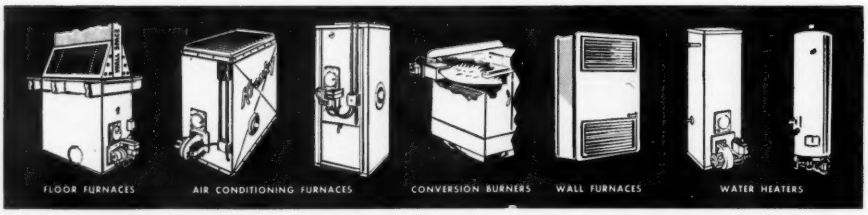
Since 1910 Kresky has been the best known name in Oil Heating. The Famous Kresky Forced Air Induction Oil Burner, the original and still the leader, has led to the development of many famous Kresky firsts, of which the new Kresky 50-30 is just one.

To be First in Sales, First be a Kresky Dealer

Write for more information on the Kresky 50-30, as well as the other equally outstanding products, in the long line of Kresky oil heating equipment. P.S. You'll find the Kresky policy and the Kresky merchandising methods different, too.

KRESKY MFG. CO., INC.
100 H STREET, PETALUMA, CALIF.
Canadian Factory: Kresky Mfg. Co., Ltd., Vancouver, B.C.

Kresky OIL BURNERS
SINCE 1910



an exhibit designed for architects, heating and ventilating engineers and others in the professional trade.

Included in the display, which encompasses 250 lineal feet of space and includes its own generating equipment for electronic controls and air compressors for the pneumatic devices, are heating, ventilating and air conditioning controls for factories, office buildings, schools and public buildings. Industrial instruments as applied to commercial systems and micro switching devices are being shown also.

Detroit outlet named Weather-Man Distributor

WEATHER-MAN outdoor temperature controls, made by Automatic Devices Corp., Chicago, Ill., are being distributed in Michigan by Nunemacher & Snypp, Inc., Detroit.

The firm is supervising distribution throughout the state of the entire line of weather actuated control systems for all types of heating.

B & G distributes Bonus to Employees

A SPECIAL BONUS, amounting to almost $100,000, has been distributed among its employees by Bell & Gossett Co., Morton Grove, Ill. Based on each employees earnings between December 1, 1949 and August 31, 1950, the distribution was made in line with company policy of sharing the profits with "our employees who make our success possible," announced C. E. Pullum, vice president and treasurer.

Greatly increased demand for B & G

A-P AUTOMATIC COMFORT CONTROL SETS BOOST HEATER BUSINESS

You, too, can prove that when oil heater customers know they can buy the very cheapest form of heating and have it controlled THERMOSTATICALLY, they buy the best model they can afford.

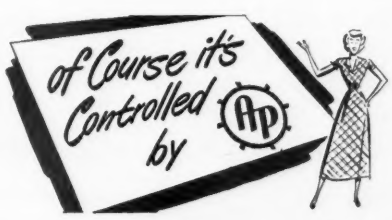
To you, this means a higher unit sale and profit, PLUS an additional profit from the A-P AUTOMATIC COMFORT CONTROL SETS. And you offer your customers the benefit of a heating-comfort deal they cannot match anywhere else — modern oil heating comfort, convenience and economy that means satisfaction for years to come.

Write us, or your distributor or manufacturer, for free banners, and complete details on A-P AUTOMATIC COMFORT CONTROL SETS.

AUTOMATIC PRODUCTS COMPANY
2458 North Thirty-Second Street
Milwaukee 45, Wisconsin

NATIONAL ADVERTISING helps you sell.

TEN MILLION readers of SATURDAY EVENING POST, BETTER HOMES and GARDENS, and FARM JOURNAL are learning the benefits of A-P DEPENDABLE Oil Controls and A-P AUTOMATIC COMFORT CONTROL on Oil Heaters. Identify *your* store with this great promotion NOW.
Mount these A-P Banners on heaters, window or wall.



DEPENDABLE OIL Controls

Standard Equipment on Vaporizing Oil Burning Heaters, Furnaces, Floor Furnaces, Water Heaters.

fueloil & oil heat

NEW FILLING Z-I-P

WITHOUT A DRIP

Simple hand-tight connection between Gun and Fill Pipe

$13.50 F.O.B. Factory

FASFILL saves time and money at every drop. Smoother, faster filling, yet never a blowback or fill drip. And FASFILL couldn't be easier to use. Every needed connection is at the driver's fingertips when he wants it. Easy hand turn puts it in place.

No buildups necessary. No tools involved. No matter if fill pipe threads are worn. Diaphragm and sealing point gaskets eliminate need for tightly threaded connecting joints.

Just shove gun nozzle through opening of flexible diaphragm in FASFILL head and let 'er go. Casing wall holds gun in position.

Light weight 3-compartment box carries ALL connections needed for making up to 1¼", 1½" or 2" male or female fill pipe.

SCULLY SIGNAL COMPANY
76 First Street
CAMBRIDGE 41, MASS.

FASFILL®

products, which outweighed rising production costs, made the move possible. The payment of the bonus is in addition to contributions by the company into the Employees Retirement Trust Fund in which 480 persons are participating.

Rockford Brass Booklet Commemorates Anniversary

A SOUVENIR BOOKLET, prepared by Rockford Brass Works, Rockford, Ill., was issued in commemoration of the company's 60th anniversary. The book featured highlights from the company's history and paid tribute to its employees, many of whom have devoted their life's work to Rockford Brass.

Arranged in chronological order separate pages are devoted to years of special significance to the company, with each event described in detail and accompanied by a brief resume of news highlights of the same year. There follows a picture page, showing the company's complete line, and then in succession a brief statement of company policy and background with a series of photographs to show manufacturing processes and employees at work.

Fire Proven Products Moves to new Location

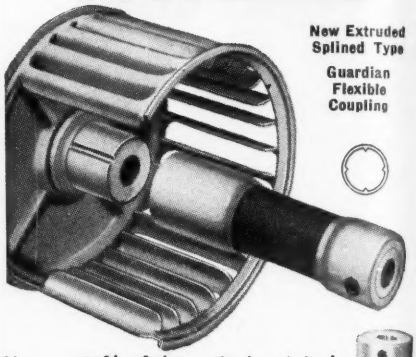
A RECENT ANNOUNCEMENT from Fire Proven Products, Inc., revealed the removal of company offices to the corner of 25th Street and Sherwood Avenue and the plant to 2320 Harford Road, both Baltimore, Md.

An addition to its manufacturing facilities was given as the reason for the change.

Atlantic Refining expands Television Football Coverage

AN EXPANDED television coverage of college football games is being sponsored by the Atlantic Refining Co. Stations on the NBC-TV network in Atlantic's marketing area will be used to cover a combination of games played by Harvard and Princeton and will televise the home games of Boston college over WNAC-TV, Boston. For the fifteenth consecutive year Atlantic has arranged a comprehensive system of regional network coverage for the

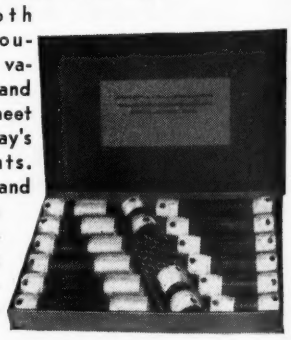
86% NOW USE Guardian COUPLINGS



Yes . . . 86% of the nation's original equipment manufacturers of oil burners in the United States are using Guardian flexible couplings. This enviable position was earned through dependability, quiet operation and long life in millions of installations. Specially treated for oil resistance . . . nothing to lubricate . . . nothing to get out of order . . . easy to install. Guardian Flexible Couplings are available in the regular set-screw type and in the new extruded splined sleeve design, fitting the hub with a close .001 inch tolerance. Both types are supplied in a variety of standard sizes or to your specifications.

COMPLETE ASSORTMENT SERVICE KIT

Contains both types of couplings in a variety of sizes and bushings to meet 97% of today's requirements. Keep it filled and be ready to make the extra profits on flexible coupling replacements.



Guardian PRODUCTS CORP.
COUPLING DIVISION

Dept. F-10, 1215 E. Second St., Michigan City, Ind.

Michigan City, Indiana

THRUSH

Vertical FLOW CONTROL VALVE

WITH AIR TUBE

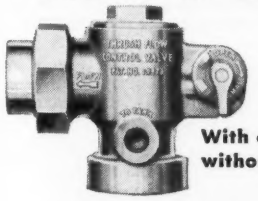
Threaded Union for Steel pipe or Solder Union for copper pipe as ordered.
FLOW
THRUSH FLOW CONTROL VALVE PAT. RE. NO. 19873
TO TANK
OPEN
Lever Adjustment.

A New Design

TO SAVE FITTINGS, SIMPLIFY INSTALLATION

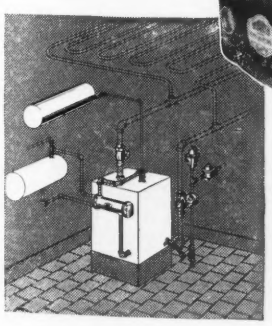
HERE IS the Vertical Thrush Flow Control Valve. It has the same proved dependable construction and offers all the advantages of the angle type Thrush Flow Control Valve, but in many installations the vertical valve will save fittings and simplify installation. Like the standard valve, it provides both flow control and air elimination without requiring any "air tube" fitting. The air is automatically separated as it rises from the boiler water and vented directly into the pressure tank. Water free of air passes up inside the tube.

Available with or without brass air vent tube.



With or without vent tube.

Angle type Flow Control Valve.



Thrush Horizontal Water Circulator.

YOU SAVE installation time and assure better heating plant operation for your customer when you install Thrush "T" Flow Control Valves. If you are not familiar with the Thrush Flow Control System and heating specialties, ask your wholesaler about them today or write us for price sheet and illustrated bulletin on Flow Control Valves. Address department C-11.

H. A. THRUSH & COMPANY, PERU, IND.

Accurate Answers demand Accurate Data

FOR PRECISE READINGS ON RELATIVE HUMIDITY and TEMPERATURE ...RELY ON BENDIX FRIEZ

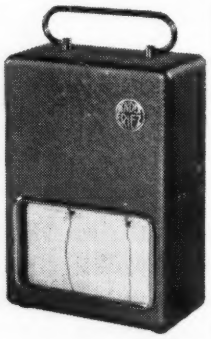
Accurate checking of heating and air conditioning installations is essential to proper operation. And proper operation is, in turn, essential to comfort in the home and peak efficiency in many industrial operations. Bendix-Friez precision instruments, built to U. S. Weather Bureau standards, furnish the exact information that both the customer and the contractor need. Write for complete information.

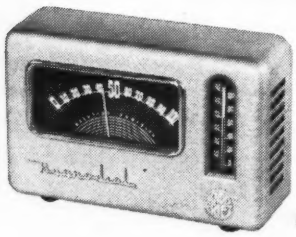
BENDIX-FRIEZ

MODEL 160

Portable Humidity and Temperature Recorder

3" x 5" charts, 10 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.





BENDIX-FRIEZ

Hygrodial

Precision Humidity and Temperature Indicator

Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1⅜" deep—desk or wall mounting.

FRIEZ INSTRUMENT DIVISION of

1322 Taylor Avenue

Baltimore 4, Maryland

Bendix AVIATION CORPORATION

Export Sales: Bendix International Division 72 Fifth Avenue, New York 11, N. Y.

home schedules of a total of 17 colleges in the east, south and middle west, plus the 12 games played by the Pittsburgh steelers. The schedule commenced on September 30, with the final game to be covered on December 10.

Atlantic will use a staff of about 50 announcers to handle the schedule, with the entire program directed by the company's advertising agency, N. W. Ayer & Son.

Offers series of Engineering data Tables

A SERIES of engineering data tables is being made available to oilburner dealers by the Double-Kaye Plumbing Supply Co., Inc., 462 West Broadway, New York 12, N. Y. The tables are being printed on convenient sized cards, which may be filed or bound together. Dealers who request copies will receive them automatically as they are prepared.

The first card contains two tables. One giving the capacity of round storage tanks with diameters from 18" to 72" and at depths up to 20". On the other side of the card is reproduced a rating table for small tube cast-iron radiators. These include units with up to 54 sections, in 3 tube, 4 tube, 5 tube and 6 tube models.

Standard of Indiana holds Management Conference

ONE HUNDRED MANAGERS, assistant managers and office managers from 26 field offices of Standard Oil Co. (Indiana) in 15 middlewestern states met with members of the board of directors and general office department heads in a three-day management conference which began on October 23 at Chicago's LaSalle hotel. The conference consisted of discussions of next years sales program.

Dr. Robert E. Wilson, chairman of the board, and Dwight F. Benton, general sales manager, opened the conference, which was closed with talks by President A. W. Peake and R. F. Baity, vice president in charge of sales. Bruce Barton, former Congressman and chairman of the board, Batten, Barton, Durstine & Osborn, advertising agency, was principal speaker at the conference banquet.

The Most Widely Used Ignition Assemblies for Oil Burners

DIELECTRIC

ELECTRODES • BUS BARS

INSULATORS • CABLES

STANDARD AND SPECIAL ASSEMBLIES IN ALL TYPES AND LENGTHS

The majority of oil burners being installed or serviced today are equipped with Dielectric electrode assemblies . . . and for good reason—

1—They are made with the finest steatite insulators and electrode tips . . . in any designs to meet specific burner requirements.

2—They have all Underwriters Laboratories, Inc., approvals.

3—Standard assemblies are available for quick delivery.

4—Assemblies with special insulator and electrode sizes and shapes can be made on short notice.

In addition, Dielectric high tension cable assemblies and Dielectric bus bars for transformer and electrode layouts are available for any practical burner hook-up.

Let Dielectric's complete, prompt engineering cooperation help improve your burner and expedite production. Write for bulletin.

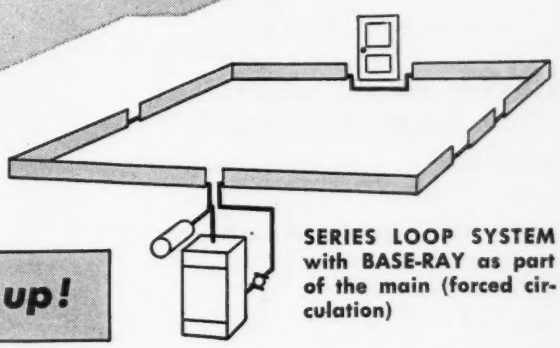
DIELECTRIC

PRODUCTS CO., Inc.

125 Virginia Ave., Jersey City 5, N. J.

Boston • Philadelphia • Des Moines

Actually this Base-Ray Installation Cuts Costs



SERIES LOOP SYSTEM with BASE-RAY as part of the main (forced circulation)

and it's as easy as A B C to hook up!

Study, for a minute, the diagram at the right. It tells the whole story. Installed in series, each BASE-RAY* panel becomes part of the main. This can mean a saving in labor, pipe and fittings up to 50% of installation cost. In many cases, this saving is the determining factor in the landing of contracts. Further details on this Series Loop System, recommended by I-B-R, are given in their new Guide No. 5.

LOOK at these Five Features

1 **RADIANT COMFORT.** Fully water-backed from top to bottom, BASE-RAY delivers ideal radiant heat. And its live front continues to give off this heat long after the burner has shut down.

2 **DURABILITY.** Made of cast iron, BASE-RAY will deliver a lifetime of service . . . fins are part of the casting, cannot come loose.

3 **APPEARANCE.** The graceful, pleasing lines of BASE-RAY attract women immediately. Compare its 7" height and 2" depth with imitators which range up to 10" high and 3" deep.

4 **LOCATION WHERE HEAT LOSS IS GREATEST.** BASE-RAY is placed along the entire length of outside walls. This makes sense, because that's where heat loss is greatest. Compare this with panel heating or other systems where no such feature is provided.

5 **LOW FLOOR-TO-CEILING TEMPERATURE DIFFERENTIAL.** Even in zero weather temperatures there's only a 2° to 3° differential with BASE-RAY. Here's the most even type of heating known.

THE IMPORTANCE OF CAST-IRON CONSTRUCTION

BASE-RAY Radiant Baseboards are made of cast iron, the metal which combines excellent heat conductivity with lifelong service. Its durability has proven it to be superior to all other metals. Many Burnham cast-iron heating units are still giving dependable service after more than a half century of use.

Above: The low, sweeping lines of BASE-RAY add beauty to any room and make this method of heating particularly appealing to women.

Below: **Cast as a single unit, the fins on BASE-RAY are *permanent*. That's why BASE-RAY'S efficiency is so much greater.**

FREE! NEW, REVISED "Ratings and Installation Guide on BASE-RAY Radiant Baseboards." Up-to-the-minute information, illustrated with simple diagrams, shows how easy it is to order and install BASE-RAY. Write today!

*Reg. U.S. Pat. Off.

Burnham Corporation

"PIONEERS OF RADIANT BASEBOARD HEATING"

IRVINGTON, N. Y., Dept. FO-110

BURNHAM CORPORATION
Irvington, New York Dept. FO-110

Please send me copy of "Ratings and Installation Guide" on BASE-RAY Radiant Baseboards.

Name_____

Address_____

City_____ State_____

New Products

Gilbarco ground Indicator For truck loading Racks

GILBARCO's electronic ground indicator protects against the hazards of static electricity at truck loading racks by showing when a tank truck has been grounded properly. The indicator is a balanced bridge circuit housed within a small explosion-proof aluminum box. When a proper ground is established by means of the ground clamp, a minute radio signal closes the circuit within the indicator.

The control circuit can be used to light a pilot lamp or sound an audible signal, or, by connecting to the pump motor starting device, the indicator can prevent delivery of the product until the truck is grounded properly.

Made by: Gilbert & Barker Mfg. Co., West Springfield, Mass.

General tankless Heater With Capacity of 4 gpm

THE GENERAL #500 all-copper tankless water heater has a capacity of 4 gpm, rise from 40° to 140° F., with

boiler water maintained at 180° F. Two inch boiler connections are provided and ¾" domestic water connections. Heater measures 15" high, 12" in diameter, and is constructed with a heavy gauge copper shell enclosing a compact copper tube bundle. Boiler and domestic water are in contact only with non-ferrous metal. A full jacket, insulated with 1" fibre glass blanket top, bottom and on side walls, is standard on all models.

The tubing arrangement in the #500 consists of layers of seamless spiral tubing, scientifically and uniformly spaced and distributed in the heater shell. The total weight for the #500 is only 33 lbs.

Made by: General Fittings Co., 123 Georgia Ave., Providence 5, R. I.

Dunkirk OB series Boiler Designed for use with Oil

A LINE of Dunkirk OB series boilers for use with oil has been announced. The units are designed with integral fins for maximum heat absorption, with boilers made of cast-iron and housed in an insulated steel cabinet, which encloses the burner. All standard makes of burners are adaptable to the series.

Five sizes comprise the OB series 15" boilers, ranging in capacity from 305 sq. ft. to 705 sq. ft. steam, 565 sq. ft.

SIMPLE AS A.B.C.

It is the simplest engineering axiom that . . . the fewer the parts the less the friction and wear . . . the longer the life. The Viking Rotary Pump has "Just Two Moving Parts" . . . the simplest possible design for a pump. Little wonder they require so little power . . . need so few repairs . . . and last so long. Little wonder, too . . . why they are chosen so universally for bulk plant and truck delivery service. Write for Special free Bulletin 1507EE today. No obligation, of course.

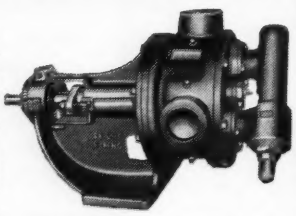


FIG. 124 TRUCK PUMP

See Our CATALOG IN SWEETS

VIKING PUMP CO.
CEDAR FALLS, IOWA

U/L approved

BETTER CHEAPER

A Low-Pressure burner with 22 less parts than any other, takes much less power to run. Better atomization at 1 to 2 pounds pressure.

Easy to install. Any good service man can service, not necessary to attend special service schools.

Air and oil mix in nozzle, Patented feature prevents change in flame density. Airflame cone drives fan air to center of oil mist. Lifts own fuel from buried tanks.

Franchises to local installers or to state distributors.

AIRFLAME, INCORPORATED
648 McAlister Ave. Waukegan, Illinois

EXTRA PROFITS

FOR OIL DEALERS...

Through Kardex

"Degree-Day" Sales Control

More profit per gallon—and more gallons sold! These are the results you get from Kardex Sales Control with "Degree-Day" Calculating . . . an amazingly simple system that tells you – at a glance – which of your customers need oil, when, and how much.

No Tank Checking –

Daily temperature reports are all you need to calculate fuel consumption. Tank checking is virtually eliminated. You save time, money. Deliveries of the right quantities at the right time are *automatic,* for "Degree-Day" scheduling is *automatic.* No guesswork – you are always right!

Systematic Customer Follow-up –

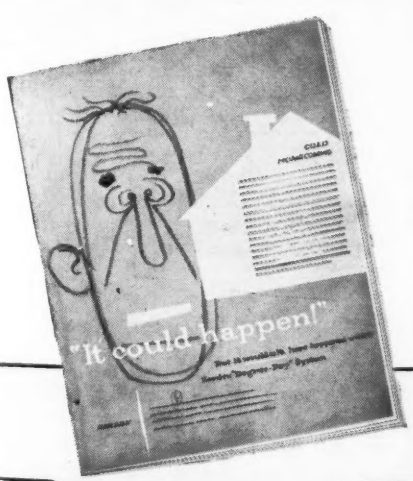
This system gives you a simple, time-saving, follow-up procedure on seasonal moving peaks, new purchasers, goodwill calls. You know *when* to call and *why* to call. Complaints, misunderstandings, changes, are adjusted economically – customer relations are improved.

You Cut Delivery Costs –

You can route your trucks more economically because you know *when* your customers need fuel. No wasted calls. Overtime, night and Sunday deliveries are eliminated, for needs are known in advance, filled according to plan.

System Tailored To Your Needs –

There is a Kardex "Degree-Day" Sales Control system for every type of fuel oil operation. Each installation is tailored to a dealer's particular needs. For example, such items as credit authorization, ledger and collection data may be incorporated in a single system, and a prospect record also included if desired.



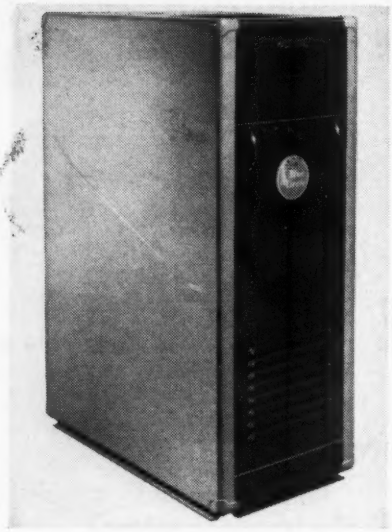
Send For This FREE Booklet

Find out how the Kardex "Degree-Day" System can open new channels of profit for you by increasing sales, and by introducing important operating economies. This famous system has proved itself over and over, in successful operation for hundreds of dealers throughout the country. Write today for this free booklet, to Management Controls Reference Library, Room 1712, 315 Fourth Avenue, New York 10, N. Y.

Remington Rand Inc.

Remington Rand THE FIRST NAME IN BUSINESS SYSTEMS

fueloil & oil heat



to 1260 sq. ft. of hot water radiation, net IBR rating. Burner capacities recommended range from 1.10 to 2.40 gph. Boilers, shipped complete ready to install, feature removable front panel for access to burner and boiler flues and a coil-type water heater which may be inserted at the rear of the boiler.

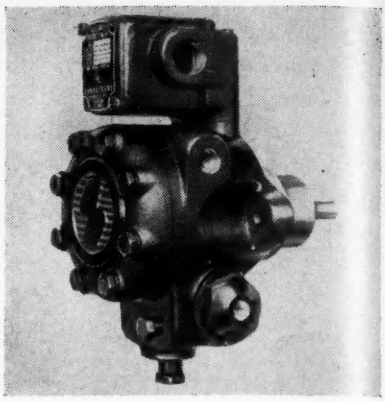
Made by: Dunkirk Radiator Corp., Dunkirk, N. Y.

Sundstrand model J Pump replaces model S-1

MODEL J, single stage oilburner pump, which Sundstrand has added to its line, replaces the company's widely-used model S-1 and is offered in five capacities for maximum firing rates of 3, 6, 9, 14 and 20 gph. Available with or without solenoids, the new model is similar in construction to S-1 units and is completely interchangeable with the older types. New styling, strainer and anti-hum device are integral features of the new pumps, which feature also decreased overall length and hydraulically balanced gears. All units have been given Underwriters' approval and provide for one or two-pipe hook-ups, the internal by-pass plug being installed easily through an opening at the bottom of the pump body.

Model K, two-stage units, have been developed to replace the former model R and are furnished in the same capacities as model J.

Solenoid valves are identical for both models J and K. The valves attach to the top of the body with two bolts,



are positive acting with conduit openings on each side. Standard valves incorporate 115 volt, 50-60 cycle coils and coils for 230 volts, 60 cycles are available on special order. Removal of the solenoid plunger permits conventional fuel operation.

Made by: Sundstrand Machine Tool Co., Hydraulic Div., Rockford, Ill.

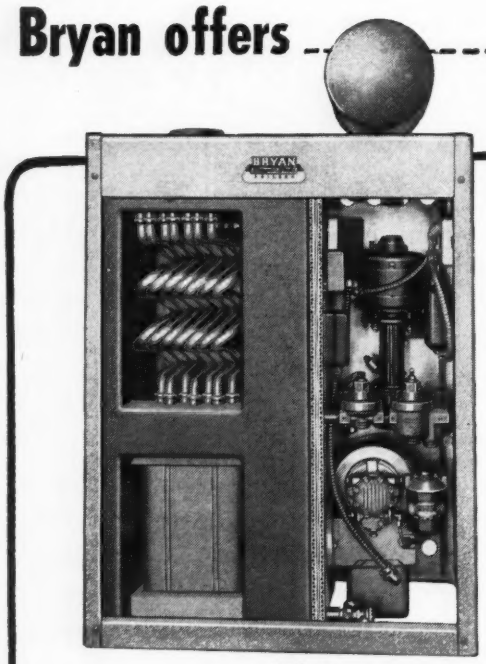
Kresky oil floor Furnace Is compact heating Unit

KRESKY 50-30 OIL FLOOR FURNACE, measuring only 30" in depth and length, 24" in width, has a Commer-

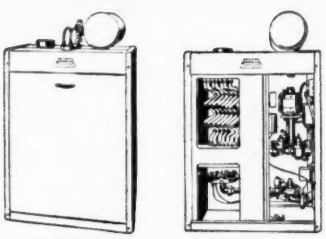
Bryan offers ..... A COMPLETELY PACKAGED BOILER FOR

radiant heat

in Small Homes and Apartments



- Light in weight.
- High efficiency copper tubes.
- Measuring but 31" wide, 41" high and 18" deep, it delivers 70,000 BTU's. Also 100,000 BTU size available.
- Green hammerloid finish.
- Oil or gas firing optional.
- Easily installed—all wiring, piping and controls assembled at factory —ready for use after connecting to water, mains, electricity and fuel lines.



CLOSED OPEN

OIL OR GAS FIRED

Send for complete information

Built to A.S.M.E. Specifications A.G.A. Approved

BRYAN STEAM CORP. 1110 Chili Pike Peru, Indiana

BRYAN Copper Tube BOILERS SINCE 1924

Ride the Chrysler Airtemp line to Success!

HERE'S THE ROUTE TO MORE SALES • • • BIGGER PROFITS

Take the Chrysler Airtemp year-'round line of air conditioning, heating and refrigeration equipment for all-season profits. Chrysler Airtemp dealers have merchandise to sell *every month of the year!* There's no winter slump—no summer doldrums with a Chrysler Airtemp franchise. Proof of this can be found in Chrysler Airtemp sales figures. Sales for just six months of 1950 were greater than during the entire six years—1936-1941.

Check over the deal Chrysler Airtemp offers its dealers. Look at the lineup of new up-to-the-minute products. Consider the lucrative franchise agreement. You'll agree that here is the *sure* ticket to big volume—big profits. Mail the coupon today. There may be an opening in your territory.

AN ALL-STAR, ALL-SEASON LINEUP:

Gas, Oil and Coal-Fired Winter Air Conditioners • Gas and Oil-Fired Boilers • Oil, Gas and Electric Water Heaters • Conversion Gas and Oil Burners • Coal Furnaces • Year-'Round Air Conditioners (Heats and Cools) • Stokers • Filter Blower Units • Electric Air Filters • Stoker-Fired Water Heaters • Room Air Conditioners • "Packaged" Air Conditioners • Dehumidifiers • Commercial Refrigeration • Condensing Units • Central System Cooling Equipment • Marine Refrigeration • Water Cooling Towers

MAIL TODAY FOR FULL DETAILS!

Airtemp Division, Chrysler Corporation FO&OH-11-50
Dayton 1, Ohio

Send immediately full details about Chrysler Airtemp's dealer arrangements, without obligation.

Name _____

Address _____

City _____ *Zone* _____ *State* _____

Chrysler Airtemp

CHRYSLER AIRTEMP

AIR CONDITIONING • HEATING • COMMERCIAL REFRIGERATION

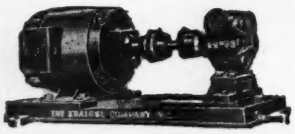
Airtemp Division of Chrysler Corporation, Dayton 1, Ohio

fuel oil & oil heat

KRAISSL * SINCE 1928 * in the application, design & mfg. of pumps — separators — hydraulic accessories.

PUMPS AND SEPARATORS
FOR OIL BURNER SERVICE

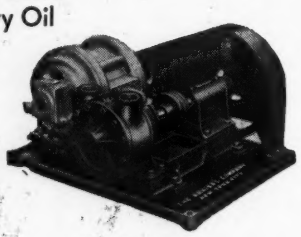
CLASS 50 LIGHT OIL PUMPS
Direct Drive For
#1 to #5 Oils Inclusive



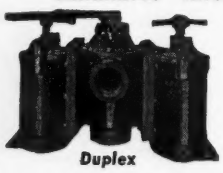
Ask For Bulletin A-1330

CLASS 60 HEAVY OIL PUMPS
Reduction Drive
For Heavy Oil

Ask For Bulletin No. A-1193



CLASS 72 STRAINERS—FILTERS
Single and Duplex
Standard and High Pressure
Baskets instantly and easily changed — eliminates filter replacement costs entirely.



Duplex

Ask For Bulletin No. A-1214

Single

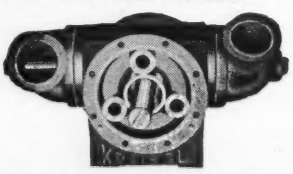
FOR BULK STATION SERVICE

CLASS 60M MOTORED PUMPS
Direct Drive
For Exclusive Use With
Light Oils and Solvents

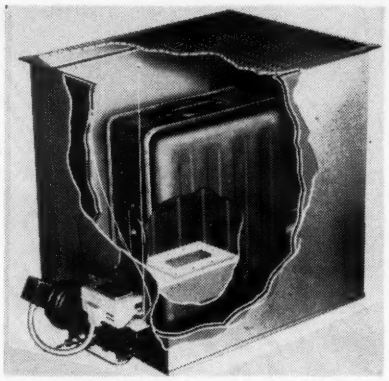
Ask For Bulletin No. A-1267

CLASS 80 TRI-ROL PUMPS
Interchangeable Service
Both Light and Heavy Oils
Tank Truck and Bulk Station

Ask For Bulletin No. A-1366



KRAISSL CO. Inc.
295 WILLIAMS AVE., HACKENSACK, N. J.



cial Standards Btu output of 52,700, derived from a maximum fuel consumption of less than two pints per hour. Models are offered with a flat floor register or dual wall registers, with either full automatic thermostat controls or for manual operation.

Kresky's forced air induction oil-burner, synchronizing the volume of blower air with fuel intake, fires the furnace units, which are built from heavy metal, featuring liner insulation and a combustion chamber completely surrounded with air.

Made by: Kresky Mfg. Co., Inc., Petaluma, Calif.

Correction

THE NEW PRODUCTS ITEM on page 109 of the August 1950 issue entitled, "Skuttle Adopts Vitreous Enamel Humidifier Pans," erroneously indicated that a change had been made from copper to brass pans. Actually, after extensive tests, Skuttle adopted steel as a base for the pans because only steel is capable of taking the high temperature fused vitreous enamel. Float chambers and water feed tubes still are fabricated of copper. The change to enamel pans was made to avoid any difficulty that might arise from corrosion.

Made by: Skuttle Mfg. Co., 4099 Beaufait Ave., Detroit 7, Mich.

Bell & Gossett announces Two tankless water Heaters

ADDITION of two new tankless water heaters to the B & G line has been announced. Furnished as a standard unit, illustrated, without jacket, a deluxe unit also is available with an insulated metal jacket. Both are made with a cast-iron shell and copper tube bundle.

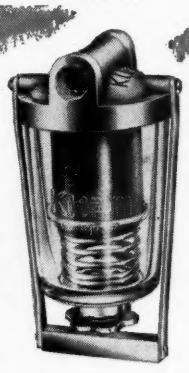
Three sizes are available, with ca-

CASH IN ON SALES OF Klemm FUEL OIL FILTERS NOW!

Sells Fast...
Market Unlimited...
Good Markup...Repeats

You, more than anyone else, have an inside track to get extra income from the sale of Klemm Oil Filters. You know *who* gets oil, *how* they use it, and *which* oil-fired utilities *need* a Klemm filter. You can sell Klemm Oil Filters easily . . . and make a good profit on every sale. What's more, you'll get extra business too from the sale of Chemistone filter elements.

A FILTER NOT A STRAINER



Model 430 G

Klemm Oil Filters remove all water, dirt, sediment, rust, and all foreign matter from fuel oil . . . help make customers happy with the oil you sell. Metal bowl units listed Underwriters' Laboratories. All sizes available for every filtering need.

ORDER A SUPPLY FROM YOUR JOBBER TODAY

SILENT SALESMEN

Packed 12 to a carton, Klemm JR model oil filters take little counter space yet do a BIG job of selling themselves. Customers are attracted TO and buy direct FROM this attractive display carton.

ATTRACTIVE DISCOUNTS TO JOBBERS AND DISTRIBUTORS. WRITE FOR FULL DETAILS TODAY.

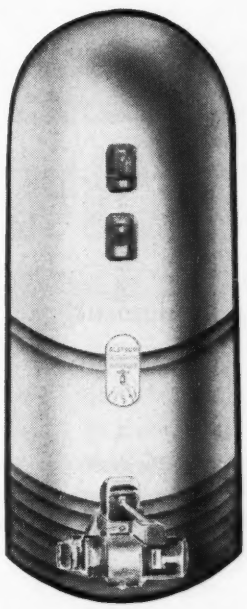
Klemm
AUTOMOTIVE PRODUCTS CO.
1718 N. Damen Ave., Chicago 47, Ill.

NOW! A RUST-FREE, SELF CONTAINED COMPLETE TANKLESS WATER HEATING SYSTEM!

The ALSTROM HYTEMP

. . . OIL FIRED, "DOUBLE TRANSFER" AUTOMATIC WATER HEATER

—for abundant clean hot water in homes, summer houses, restaurants, factories, hotels, apartment houses, etc.



Ruggedly constructed for long life at high temperatures, the heavy duty HYTEMP Automatic Water Heater employs a "double transfer" principle. Oil fired heat is taken from the primary water circuit. This circuit is sealed air tight, oxygen free, and therefore non corrosive.

Hot water is then drawn from the secondary tankless circuit made of all copper-bronze — impervious to corrosion.

The HYTEMP comes in four sizes: Models 100, 200, 350 and 500. Model number indicates equivalent useful storage tank capacity.

UNITS ARE:

- **attractively designed in enameled jacket**
- **complete with burner and all controls**
- **fully insulated**
- **built to supply more hot water at lower costs**
- **made by the manufacturers of the famous *Vacuumatic Tankless Water Heater**
- **guaranteed for ten years**

See your wholesale distributor or write direct for literature and prices.

*Reg. T.M.

Manufacturers of: heavy duty submerged coils, Tempering Valves, Oil Preheaters, Flo-Matic.

THE ALSTROM CORPORATION
790 East 176 Street • Bronx 60, N. Y.

Because they're years ahead in steam generation

only CYCLOTHERM STEAM GENERATORS

Trade Mark Reg.

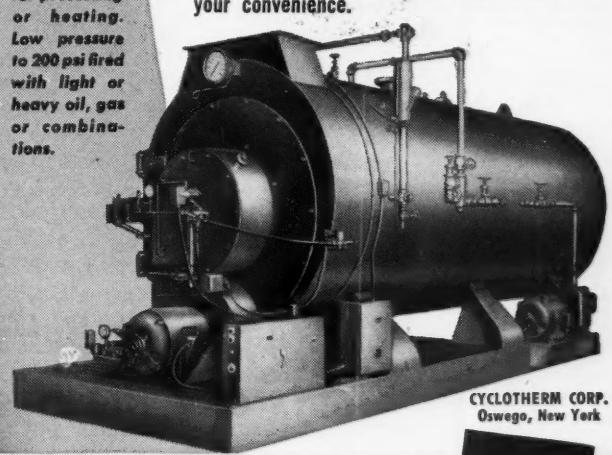
HAVE the REAL * ANSWER TO Low GAS and OIL CONSUMPTION

***WHAT IS IT?** It's the modern scientific discovery of transferring heat at the highest degree of efficiency with a new low in fuel consumption. Principal factors of which are the cylinderized solid flame with its exclusive cyclo-motion power, designed to utilize the full potential of every particle of fuel . . . and the thin layer of air resulting from centrifugal force that's always between the flame and wall of combustion chamber. A combination to produce steam far in excess of conventional standards for measured heating surfaces.

SEND FOR *ALL* THE BIG REASONS

Learn how the completely automatic Cyclotherm with its unexcelled all-in-one package type features wipe out waste and excess costs. If you are planning a new or replacement boiler installation it will pay you to first get the facts on Cyclotherm. The coupon below is for your convenience.

***SIZES** available to fit your steam or water load for processing or heating. Low pressure to 200 psi fired with light or heavy oil, gas or combinations.*



CYCLOTHERM CORP.
Oswego, New York

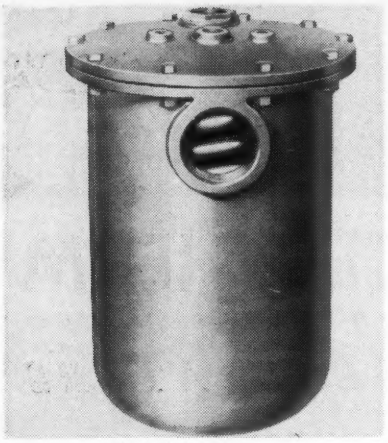
CYCLOTHERM CORP., OSWEGO, N. Y.

Gentlemen: Please send me bulletin H-1 showing the advantages of Cyclotherm's new concept in Heat Transfer. Without obligation, of course. Dept. FO-11

NAME .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....



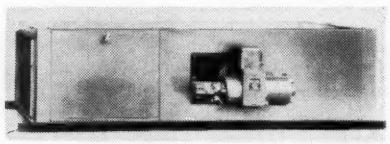
pacities in gph ranging from 210 to 300 with boiler water at 180° F., 315 to 450 gph with boiler water at 200° F. Both ratings assume a 100 degree rise from 40° to 140° F.

Made by: Bell & Gossett Co., Morton Grove, Ill.

Quiet Automatic Furnace Is ceiling-suspended Model

A COMPLETE OILFIRED furnace unit, announced by Quiet Automatic, has been designed for suspension from ceilings, to be installed where space is at a premium. Smallest model is rated at 85,000 Btu and measures 70" by 26" by 19". Other models are rated at 142,000, 175,000 and 240,000 Btu.

The furnace is insulated with fiber glass, features a 12 gauge steel body with radiation section for long flue

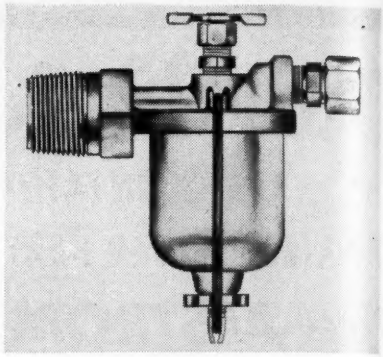


travel. A combustion chamber is built-in and precast and the unit's air intake compartment contains a motor-driven blower and replaceable filter. The firm's gun type oilburners fire the units.

Made by: Quiet Automatic Oil Burner Corp., 33-35 Bloomfield Ave., Newark 4, N. J.

Marquart offers Filter For oilburning Equipment

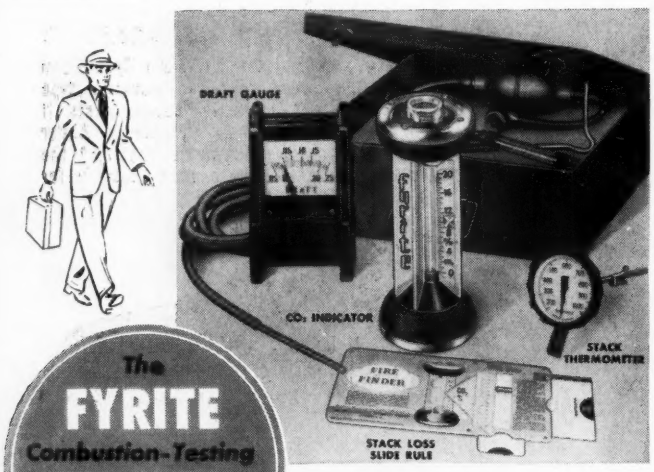
A FILTER for oilburning equipment has been announced to be marketed under the trade name Sette. It attaches directly to the drum or tank and is designed to trap and retain scale and other fueloil impurities. The filter is described as easy to install and can be emptied quickly and cleaned.



Made by: Marquart Mfg. Co., 1241 High St., Oakland 1, Calif.

Research filter Box For use with unit Heaters

A FILTER BOX for use with unit heaters has a primary purpose of cleaning the air to be recirculated through the heated area, but, in addition, the air-cleaning process permits only clean air to flow through the unit heater. The result is that heater parts are not subjected to the infiltration of dust and



The FYRITE Combustion-Testing MASTER KIT

Helps You Build Profits and Prestige

Combustion-testing builds business in two ways. First, it boosts service profits because with instruments any service job can be done in less time and by less experienced men. Second, it brings in new equipment business by spotting fuel-wasting burners through a dramatic "fuel-saving" check-up which will convince even the most skeptical customer of the need for replacement or modernization.

Keying your sales and service to fuel conservation will work wonders for you. It will establish you as a "fuel-saving" expert and help you corner an even larger share of immediate and future sales in your community.

The MASTER KIT shown above will appeal particularly to those who want professional implements of highest quality and reliability, as well as of impressive display. The cost of the kit is very small compared to the sales and service profits it will bring you.

Ask your Jobber or Write for Bulletin 733

BACHARACH Industrial Instrument Co.

7000 BENNETT STREET • • PITTSBURGH 8, PA.

All in ONE Package

Everything you need to do a complete job in one strong carton.

When you get the Standard R & I Combustion Chamber there are eight refractory side segments, metal bonding clips, strap, and Hearth Cement for pouring a floor—all in one easy-to-carry carton. The clips and strap hold the segments in place and speed up installation.

NO EXTRAS NEEDED!

You'll like the convenience of the standard R & I Chamber package, suitable for use on any job burning 1 gal. to 1.65 g.p.h.

Your supply house has it. Write us for Bulletin OB-101.

R&I

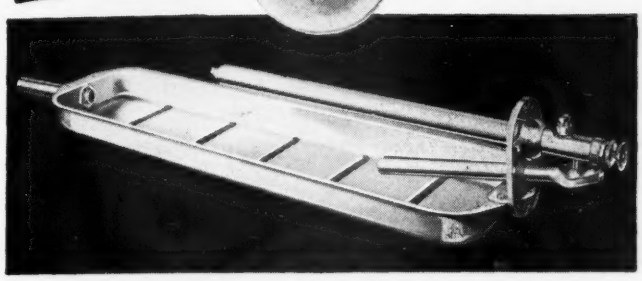
REFRACTORY & INSULATION CORP.

116 Wall St., New York 5, N. Y.

Chicago 4, Ill. Newark 2, N. J. Philadelphia 2, Pa. Cleveland 15, Ohio

Combustion Chamber

EACH DROP OF WATER VAPORIZES AS IT HITS HEATED PAN!



THERMO DRIP *Automatic* HUMIDIFIER

Water drips—AT PRE-SELECTED SPEED—into fast-heating, stainless steel pan. Drip feed principle gives almost immediate vaporization—makes a much more efficient working humidifier.

There is never a stagnant pool of water to reheat before vaporization begins—only a thin film of water ever forms in pan.

These features assure superior performance at LESS COST!

SUPER-SENSITIVE THERMOSTAT
Fool-proof. Starts or stops the flow of water according to bonnet temperature.

OUTSIDE SCREW ADJUSTER
Easy to regulate. Fingertip control.

12 PAN SIZES
Installs quickly—easily in every type warm air furnace.

1 KIT TO PURCHASE
NEW, IMPROVED AIR-TIGHT VALVE ORIFICE
Has positive seating action.

DRIP FEED PRINCIPLE
Water does not spray or run—Passes through funneled orifice.

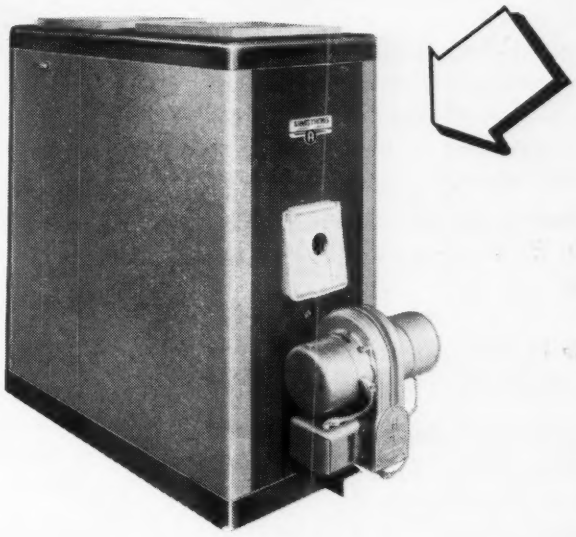
WRITE TODAY FOR *FREE* LITERATURE. DEPT. FO-110

Automatic Humidifier Co.
CEDAR FALLS, IOWA

it's a new ◆◆◆

ARMSTRONG

oil-fired winter air conditioner ... in the popular 80,000 BTU size!



Here's the *ideal* oil-fired unit for today's popular small home. Fully engineered, carefully manufactured, the new Armstrong oil-fired winter air conditioner represents real quality in every detail. It's fired by the Armstrong gun-type oil burner, with the exclusive Turbo-Regulator assuring high-efficiency firing, even in the relatively low firing range. The Turbo-Regulator combines control of the volume and turbulation of the air at one point — makes adjustment extremely easy.

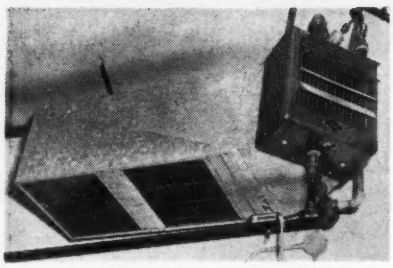
The welded steel heating element, through careful design and construction, assures maximum heat transfer and long, trouble-free service. The attractive two-tone blue enameled steel cabinet is a plus feature in appearance — one which helps to sell the lady of the house. Readily convertible to gas firing, it meets changes in fuel supply. All the way, it's a unit which will build customer satisfaction.

See your Armstrong jobber for information about this new unit — or any unit in the Armstrong line of warm-air heating equipment. It's a complete line, with a unit for any warm-air heating need or preference — any size, any style, for any fuel. If you don't know the Armstrong jobber, write to us for his name. If you're a jobber, write for details on Armstrong's selective distribution.

Look to Armstrong for leadership in warm-air heating. A complete line — oil, gas and coal.

ARMSTRONG FURNACE COMPANY
COLUMBUS, OHIO — A — DES MOINES, IOWA

See our exhibit at the 10th International Heating Show, January 22-26, Philadelphia.



dirt, so that efficiencies are higher and the necessity to remove the heater for cleaning and maintenance is eliminated.

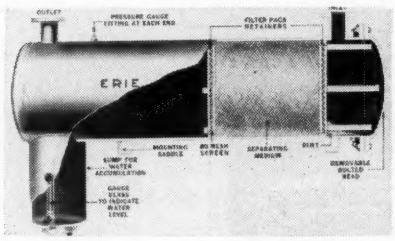
Once the installation has been made —a typical one is shown in the illustration—the only expense necessary is the replacement of the air filters at periodic intervals.

Made by: Research Products Corp., 1101 E. Washington St., Madison, Wis.

Erie Dehydrator acts as Filter and water Separator

DEHYDRATORS are available to function as filters and water separators to furnish clean and water free petroleum products. Units, whose capacities vary from 18 to 700 gpm when handling kerosene, from 12 to 500 gpm for Nos. 2 and 3 fueloil, are recommended for installation as close as possible to the final dispensing point to remove wax, foreign particles and water.

The Erie dehydrator consists of a horizontal tank fitted with a special filter pack of treated and processed

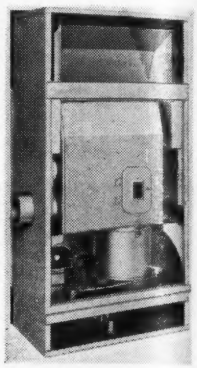


wood fibre. When saturated the pack repels water by a phenomena known as "preferential wetting," wherein tiny droplets of water gather and, in falling, coalesce with others, increasing in size and trickle to a sump chamber from which the water is removed manually or automatically. In addition the unit offers the effectiveness of a 325 mesh strainer.

Made by: Erie Meter Systems, Inc., Erie, Pa.

Delta wall Furnace has Output of 52,000 Btu/hr

DELTA oilfired wall furnaces are designed for flush installations so that only if needed metal grilles are exposed. Fired with a 10" vaporizing oilburner, the unit features a large access panel for entry to the lighting door and to all controls for servicing and cleaning. Volume of air desired in



the rooms is adjusted with a knob that controls a directional vane, with a "Heat-Mizer" baffle to divert heat.

Roughing-in dimensions measure 60¼" by 31¼" with overall depth adjustable from 18" to 20". A two-speed circulating blower fan delivers 800 cfm and may be used for circulation during the summer months.

Made by: Delta Heating Corp., 85-07 Northern Blvd., Jackson Heights, N. Y.

AUTOCRAT OIL BURNERS

OFFER HEAT PLUS ECONOMY

FOR YOUR CUSTOMERS

with the NEW COMBUSTION HEAD

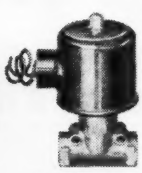
This famous Autocrat Line is one of the oldest and finest in America. As a Dealer, you can safely recommend Autocrat Oil Burners to your customers. You may promise efficiency, dependability and economy . . . and Autocrat with the new Combustion Head will live up to your promises. Write at once for prices and liberal Dealer discounts.

Manufactured by

CHANDLER COMPANY

CEDAR RAPIDS, IOWA

Wherever CONTROL is vital

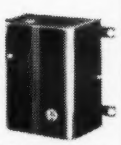


K-21 Magnetic Single Seated Valve

L-32 Immersion Thermostat

K-10 Magnetic Lever Valve

V-110-1 Manual Reset Valve



R-99 Oil Burner Stack Control

K-15-E Magnetic Piloted Piston Valve

GENERAL CONTROLS are in charge!

GENERAL CONTROLS

801 Allen Avenue, Glendale 1, California

Manufacturers of Automatic Pressure, Temperature, Level and Flow Controls

FACTORY BRANCHES: Baltimore 5, Birmingham 3, Boston 16, Buffalo 3, Chicago 5, Cincinnati 2, Cleveland 15, Dallas 1, Denver 4, Detroit 8, Glendale 1, Houston 6, Kansas City 2, Minneapolis 2, Newark 6, New York 17, Philadelphia 23, Pittsburgh 22, St. Louis 12, San Francisco 7, Seattle 1, Tulsa 6

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Gulf Fuel Oil...

You're selling...

clean heat, comfort!

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GULF

Allied Presents...

The "REBEL"

Most Popular Truck Tanks in Years!

1250 GALLONS
3 COMPARTMENTS
METER, PUMP, HOSE, ETC.

4 to 6 Weeks Delivery

LIFETIME GUARANTEED
CUSTOM MADE TANKS
GASOLINE AND FUEL OIL

ALLIED TANK TRUCK EQUIPMENT CO.

2161 North Second Street
Philadelphia 22, Pa. **GArfield 3-8300**

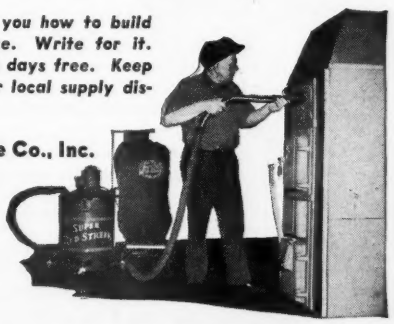
How A Super Red Streak Helps You Get More Business

Cleaning all kinds of heating plants with a Super Red Streak Furnace Cleaner puts you in touch with new plant prospects, keeps oil users happy, and makes you a nice profit.

The Super Red Streak is easy to use. Chimney cleaning tools are standard equipment. The Super Special Oil Soot Bag, at small additional cost, is constructed to avoid clogging, eliminating the back pressure destructive to ordinary cleaner bags.

Our FREE Plan Book tells you how to build a furnace cleaning service. Write for it. Try a Super Red Streak 5 days free. Keep what you make. Ask your local supply distributor or write.

National Super Service Co., Inc.
1951 N. 12th Street
Toledo 2, Ohio



SUPER SUCTION

SINCE 1911

"THE DRAFT HORSE OF POWER SUCTION CLEANERS"

MAR-COIL SILENCERS

PREVENT WATER HAMMER!

MAR-COIL SILENCERS

SIZE	Cubic Inches of Cushion
½" Type A	9 cu. in.
½" Type B	17 cu. in.
¾" Type C	33 cu. in.
1" Type D	55 cu. in.
1¼" Type E	103 cu. in.

ELIMINATES WATER HAMMER FROM HOT OR COLD WATER LINES!

Eliminate dangerous and annoying water hammer with MAR-COIL silencers. Available in five sizes to correct every job. Install easily in upright position and require no adjustment. Made of all polished brass and copper. For Homes, Apartments and Industry. On Tankless Heaters, Washing Machines, Dishwashers, Pumps, etc. Install as near as possible to the fixture that hammers.

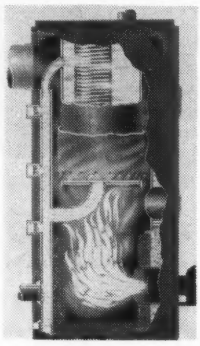
We also make: **BOILER STANDS • FUEL OIL TANK GAUGES • TANKLESS HEATERS • TEMPERING VALVES • STEAM MOTORIZED GATE VALVES**

MAR-COIL HEATER CO.

200 PATERSON PLANK ROAD, UNION CITY, N. J.

General Thrift Master boiler Features Cyclo-Heat Economiz

GENERAL THRIFT MASTER BOILER features a Cyclo-Heat Economizer, a scientifically designed circular steel shell inserted within the gas passage. To this are attached vortex creating vanes, whose pitch has been determined by dynamic flow tests. Thrift Master is an ASME code boiler, containing a built-in domestic hot water heating coil and built-in combustion chamber. The plate of the combustion chamber is sufficiently large to permit replacement of refractory linings, and afford access to the entire combustion zone.

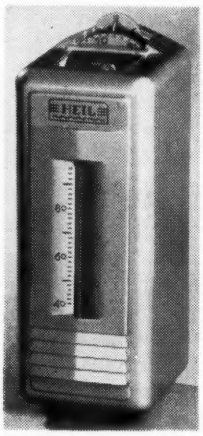


The top of the boiler is removable for complete inspection and cleaning, with an added advantage of the Economizer described as its ability to flush away and consume deposits in the secondary heating surfaces because of the acceleration it imparts to the gases. Boilers are offered with square flush or deluxe extended jackets.

Made by: General Products Co., Div., General Mfg. & Distributing Co., 1207 Hamilton St., Philadelphia, Pa.

Heil adds two Features To its Line of Furnaces

THE FIRST of two features added to Heil's line of gas and oilfired furnaces is a redesigned thermostat cover, finished in a golden harvest color and simulating the front panel of the unit it serves. It was designed and produced for Heil by the Perfex Corp., and is to be standard equipment on all KF-0, KF-1 and KF-2 units.



The second feature is an air filter gauge, the Visi-Float, which measures static pressure on the downstream side by a tube and on the upstream side by a hole in the gauge itself. The pressures activate a float needle which reaches the danger point when filters become clogged. The plastic gauge, less than 6" high, will be furnished on models KF-1, KF-2 and KFG-2.

Made by: Heil Co., 2911 South 32d St., Milwaukee 1, Wis.

Handy Expando tube End expander Tool

HANDY EXPANDO, tube end expander tool, has been designed for use where tubing must be joined by couplings or off-setting. The device expands soft and hard copper, aluminum and steel tubes with a few turns of its handle after the tubing is placed in the jig.

Present models, weighing less than 10 lbs., are equipped with dies for expansion of 3/8", 1/2", 5/8" and 3/4" tubes one-eighth of an inch, with each expanded the amount of thickness of the metal, holding to a tolerance of .002. When expanded, the tubing is slipped

SILENT KORTH
OIL BURNERS

SILENT KORTH OIL HEAT

NOW DISTRIBUTED EXCLUSIVELY THRU PLUMBING & HEATING JOBBERS

- A SIZE FOR EVERY JOB. CAPACITY .75 TO 20 G.P.H.
- ADAPTOR FLANGES TO FIT BOILER OR FURNACE UNITS
- GE OR OHIO MOTOR
- M-H CONTROLS

SILENT KORTH INSURES YOUR PROFITS
IT IS SERVICE-FREE — IT STAYS SOLD!

Send for our Jobber Sales Plan today

ECKHART MFG. CO., INC.
UNION, NEW JERSEY

SUBSTANTIAL PROFITS for YOU—
Cleaning Furnaces with the
GRAND RAPIDS De Luxe FURNACE CLEANER

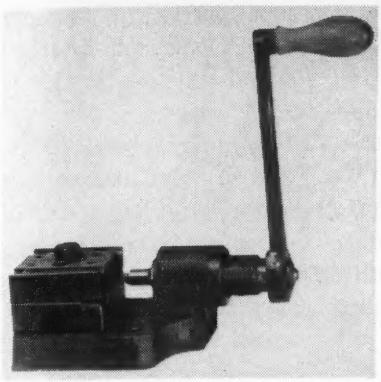
You can put furnace cleaning on a money making basis by using a Grand Rapids Furnace Cleaner. High velocity suction scoops up all deposits of soot, ashes and carbon, cleaning the heating plant and re-establishing full efficiency. Special attachments clean flues, radiators, right angle turns and other hard-to-reach areas. The job is done quickly and completely. Customers are highly satisfied.

The Grand Rapids DeLuxe Furnace Cleaner is also your "in" for more than cleaning profits. By checking over and inspecting the heating plant as you clean it you are in a position to make timely recommendations for new equipment or repairs. This means better service for customers . . . more profits for you.

Write for complete information and prices today.

DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Mich.

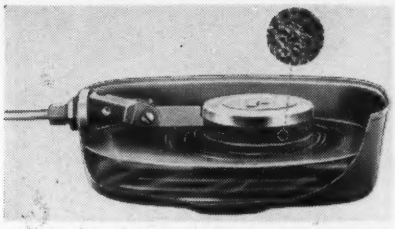


onto the connecting tube, without using a coupling sleeve. Soldering time, thus, is reduced, and the leak potential halved by the elimination of an additional joint.

Made by: Knuth Eng. Co., 2617 N. St. Louis Ave., Chicago 47, Ill.

Viking adopts foam glass Floats for Humidifiers

VIKING humidifiers now are being furnished with floats made of foam glass instead of the conventional metal float. The company explains it as a means of avoiding difficulties caused by corrosion, liming or puncture damage. The cylindrically shaped foam glass float is remarkably buoyant because millions of tiny bubbles of air remain captured in the glass.

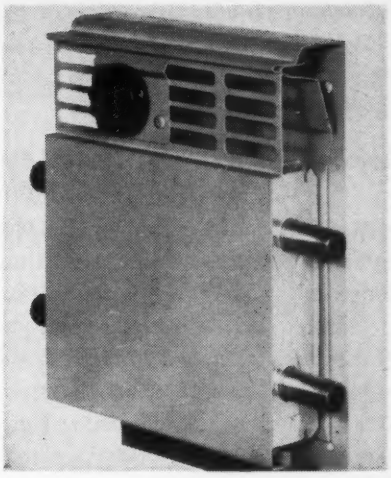


The company cites a series of tests made by laboratories on the substance showing that foam glass is water and vapor-proof, cannot shrink, swell, warp or rot.

Made by: Viking Air Conditioning Corp., 5600 Walworth Ave., Cleveland 2, Ohio.

Kritzer redesigned Baseboard Increases its convection Output

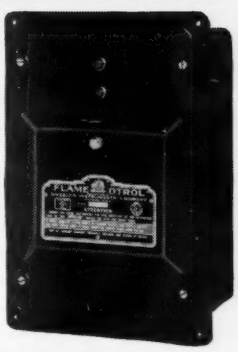
THE STEEL COVER of Kritzer standard baseboards units has been redesigned to increase convection output and a damper can be supplied when specified. In damper-equipped models, a control knob is installed to regulate dampers up to 10 ft. long. The new units are supplied in 10 ft. sections, can be cut on the job to fit and are easy to install.



Extra warm air output is obtained from these units, due to a "chimney effect" from redesigned louvers. Circulating warm air, supplied by convection, is added to the radiant heat from the Fin-Tube coil in the new models. The coil is enclosed within the baseboard, made up of aluminum fins mechanically bonded on two copper tubes

instrumentality

DON'T PLAY WITH FIRE... specify FLAME-OTROL



Approved by Associated Factory Mutual Laboratories

Underwriters Laboratories

You can't afford to have less than the best in combustion safety. Specify the new Wheelco 1300 Flame-otrol—a compact completely engineered package with all these advantages—Instantaneous protection... waiting period not subject to human error...shut down or repeat of "lighting-off" cycle at operator's discretion...automatic check of all internal components to insure safe "lighting-off"...selective and adjustable timing programs for ignition cycles, purging and preventilating...constant visual indication of burner system operation...

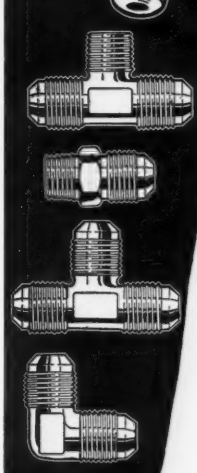
Write for Bulletin F2-2, Wheelco Instruments Company, 868 W. Harrison Street, Chicago, Illinois.

wheelco electronic controls

SOMETHING NEW!

SOMETHING NEEDED!

DIRECT CONNECTION between oil tank or drum and tube line to heater or furnace, has given this NEW, specially designed Leggitt Oil Tank Valve soaring sales. It is something much needed in thousands of homes to eliminate the usual leaky "make-shift" way of connecting heater to tank. This ALL BRASS VALVE with brass seat is of finest quality in construction and material and is a very saleable and fast moving item.



Always look to Leggitt for the newest in valves, filters, fittings, etc. — the BEST in BRASS at the MOST REASONABLE PRICES! Whether your order is large or small it will receive the same prompt and careful attention.

- GALVANIZED MALLEABLE IRON FITTINGS
- BRASS FITTINGS
- COPPER TUBING
- OIL FILTERS
- OIL VALVES

Write for catalog and prices.

SOUTHWESTERN OFFICE & WAREHOUSE
548 Burleson
San Marcos, Texas

S. H. LEGGITT CO.
MARSHALL MICHIGAN

through which hot water is piped.

Made by: Kritzer Radiant Coils, Inc., 2901 W. Lawrence Ave., Chicago 25, Ill.

Dacarol activated Fueloil Treatment

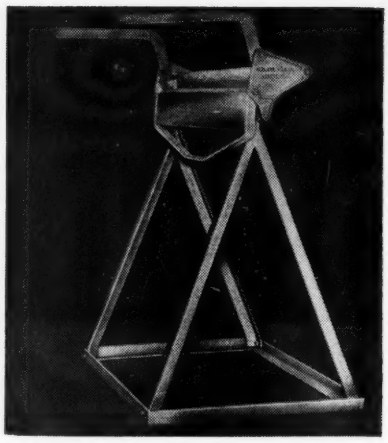
DACAROL A has been developed as an activated fueloil treatment, dissipating sludge and water condensation in storage tanks. For most effective results, the product is applied directly to the tanks in proportionate dosages per 1,000 gals. of fueloil. It is said to penetrate the entire body of oil within a few hours.

Made by: Dacar Chemical Products Co., McCartney at Wabash St., West End, Pittsburgh 20, Pa.

Fayette portable Brake Handles up to 20 Gauge

WEIGHING approximately 100 lbs., the Fayette hand brake and bar fold, with detachable folding stand, is a portable model that handles sheets up to 20 gauge, 36" widths. It is moved easily from job to job, requiring a minimum of transportation space.

Channels, angles, S and drive clips,



side rails, duct work, end pieces, Pittsburgh seams, wall stocks and other fittings can be made up on the job.

Made by: Fayette Mfg. Co., Fayette, Ohio.

Invader rotary Pumps For tank Truck uses

INVADER rotary pumps have been announced for tank trucks, featuring ports that can be revolved to any 45 to 90 degree position. The pump's relief valve is reversible for changing the pump rotation. A pipe tapped model is offered in capacities of 35, 50 and 100 gpm, pipe sizes 1½" to 2"; flange type models are available in capacities of 100, 200 and 300 gpm for 2½" to 4" pipe sizes.

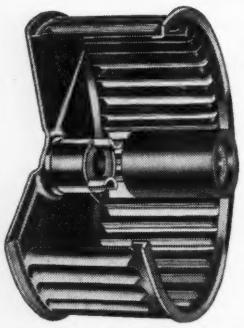
A sealed radial thrust bearing keeps out water and dirt, with an extra long packing chamber providing additional package to eliminate leaks. In common with other Invader models, the new pumps have rounded tooth design for a rolling contact and positive seal. Compactness and lighter weight are features of these later models.

Made by: Schirmer-Dornbirer Pump Co., 1719 East 39th St., Cleveland 14, Ohio.

Add wet Pick-up to Red Streak furnace Vacuums

RED STREAK Super Suction furnace vacuum cleaners now are equipped for wet pick-up, for those instances where it is found necessary to remove moisture or water from factory or cellar floors. The unit is prepared for wet pick-up by the use of a water-tight, rust resistant metal container, instead of the standard container. Both will handle soot, dust and hot coals.

S-M-O-O-T-H
Q-U-I-E-T
BURNERS USE LOVEJOY L-R



Flexible Couplings

Whether installed on new equipment or as replacement on old burners, these sturdy, quiet couplings compensate for shock, vibration, starting torque, overload, misalignment, surge and backlash. They keep oil burners running s-m-o-o-t-h and q-u-i-e-t. Easy to install. Nothing to get out of order. No lubrication required.

WRITE, WIRE OR PHONE FOR BULLETIN 532 TODAY

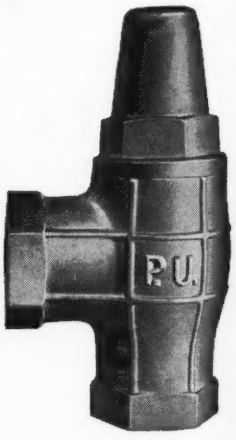
LOVEJOY FLEXIBLE COUPLING CO.
5012 W. Lake Street Chicago 44, Ill.

Mfrs. of Lovejoy Flexible Couplings for all industrial services, Lovejoy Variable Speed Transmissions and Lovejoy Universal Joints

NEW PREFERRED Anti-Syphon VALVE

APPROVED BY UNDERWRITERS' LABORATORIES FOR NO. 6 OIL

Here's a new and important development in anti-syphon valves . . . Preferred's Type A Valve, which is the only valve available in these sizes approved by Underwriters' Laboratories for use with No. 6 oil, as well as with lighter oils. This angle type valve takes the place of an elbow when installed at the high point in the suction line, usually at the building wall, where the line drops to the basement floor.



- Built-in dashpot eliminates chattering.
- The new Preferred Type A valve is spring-loaded and is available in 1¼", 1½" and 2" sizes for 5 or 10-foot head pressures.
- For Oils Up To No. 5—Valves C5 and C10 are available in ⅜" and ½" sizes.
- For Oils Up to and Including No. 5—Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)

PR 188

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY, NEW YORK 23, N. Y.

ANNOUNCING

The Hago 3-stage-strainer!

ALL METAL! CAN BE CLEANED!

Oil is filtered through two layers of 200 mesh and one of 150 mesh wire cloth for removal of the smallest particles of foreign matter. Recommended for small capacity nozzles.

Hago Products - 1281 Springfield Ave., Irvington 11, N. J.

The new device is for use where basement floors are to be cleaned by suction or for suction cleaning of flooded basements.

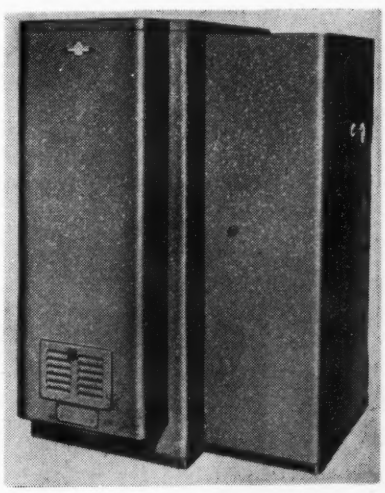
Made by: National Super Service Co., 1944 North 13th St., Toledo, Ohio.

Add Furnaces, space Heaters To Perfection Superfex Line

SUPERFEX model 68 furnace units is offered for heating homes having 8 to 10 rooms. Fired with a 3-stage burner and equipped with a 2-speed blower, the model 68 has a 125,000 Btu input, is finished in baked brown enamel.

Superfex model 69, with the same input rating as model 68, has a 2-stage fire-burner and single speed blower.

A low-boy type heater, model 3145, circulating heater, stands 36½" high, 31½" wide, with a "multi-Heat" burner and "Midget" pilot. It is a 45,000 Btu model, designed for fireplace installation because of its low flue feature. It has a stainless steel flue baffle

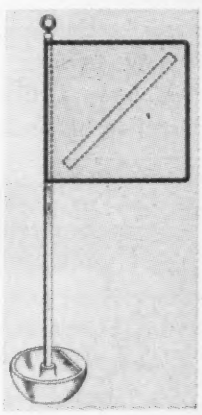


and may be furnished with accessories that include a 5 gal. oil reservoir and snap-on blower.

Made by: Perfection Stove Co., 7609 Platt Ave., Cleveland 4, Ohio.

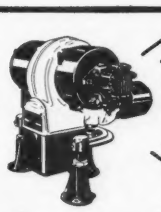
Ipco danger flag Standard For use by oil delivery Trucks

A DANGER FLAG STANDARD has been announced for use where a portable danger signal is needed, including oil delivery trucks. It consists of a 7" diameter cast-iron base, 13" by 13" red canvas flag, held spread by means of a spring steel stay inserted diagonally in a canvas pocket, mounted on a 32" staff, non-rusting eye and ferrule on top of the staff. The eye is used when making up barriers. Unit is easily assembled.



Made by: Industrial Products Co., 2887 N. 4th St., Philadelphia 33, Pa.

A COMPLETE LINE NATIONALLY ADVERTISED



FOR EVERY OIL FURNACE NATIONALLY KNOWN

Sundstrand All Electric OIL BURNER

- All Surfaces Machined
- Completely Fire Tested
- Variable Tube Lengths
- Meets Local and State Requirements

WRITE TODAY FOR FULL INFORMATION ON OUR COMPLETE LINE

SUNDSTRAND ENGINEERING COMPANY
ROCKFORD, ILLINOIS

Try this OIL BURNER LIQUID on your most difficult jobs

MILOS SYSTEM DEVICES REG. U.S. PAT. OFF.

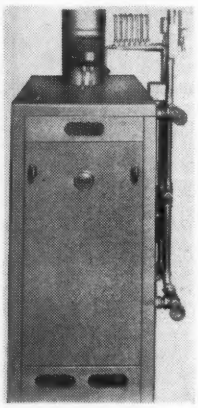
WHAT IT DOES:

- Helps remove soot.
- Increases B.T.U.'s.
- Helps dissolve and remove gum deposits, sludge and water.
- Helps overcome oil odors.
- Retards rust and corrosion.

Write for prices and dealer discounts!
MILOS SYSTEM DEVICES
94 Lakeview Avenue Clifton, New Jersey

Drill provides Package For radiant heating Systems

A PACKAGED UNIT service for radiant heating installation has been announced, providing the technical knowledge and assistance for the installer who does not have a trained technical staff.

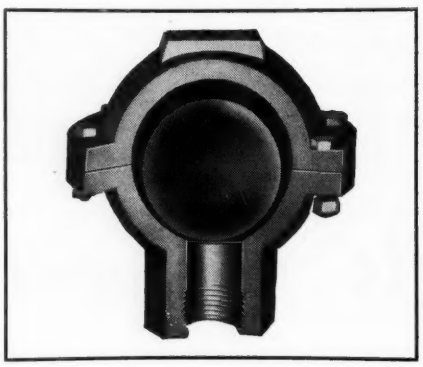


A packaged Drill radiant panel heating system includes engineered design and layout for plans submitted, a factory-assembled water heating unit of correct capacity, gas or oilfired, prefabricated copper tube radiant heating panels, major accessories and installation instructions, if desired. All or part of the service may be used. Drill manufactures domestic and commercial water heating boilers for all types of heating systems.

Made by: Drill Mfg. Co., 546 South Meridian St., Indianapolis 4, Ind.

Five sizes of R-S Heyden Liquid shock Absorbers

FIVE SIZES of R-S Heyden liquid shock absorbers have been developed to eliminate hydraulic shock and hammering in pipe lines carrying water or petroleum products, thereby reducing the possibility of leaky joints, opening pipe seams and excessive pressure.

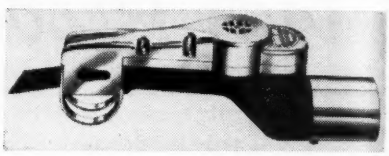


Models available cover all applications, ranging from domestic to industrial use. Operation involves no moving parts. Instead, a rubber cushion in a spherical chamber pulsates constantly as pressure increases or decreases in the system. The units may be installed in any position and are constructed of non-corrosive metals.

Made by: R-S Products Corp., 4530 Germantown Ave., Philadelphia, Pa.

RCS reciprocating Saw Now has built-in Blower

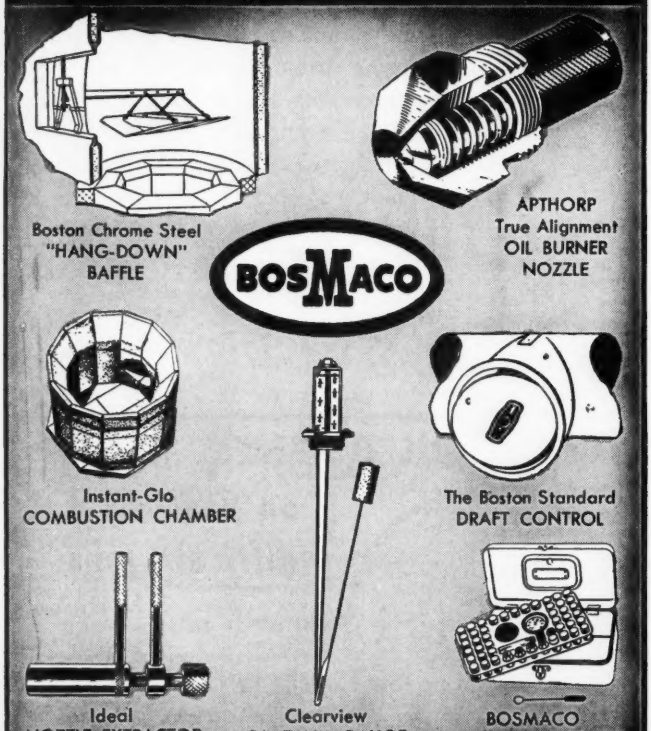
POWER for the new RCS Super-Saw is provided by any heavy-duty ¼" or 5/16" electric drill, by air drill or by standard flexible shaft equipment. Measuring 10¾" overall, the saw weighs 3 lbs. 6 oz., is designed to cut openings in floors or siding without a starting hole. Held tightly against the material to be cut, the saw is rocked into an upright position and guided along the cutting line.



A built-in blower keeps the saw cool and, by directing the air flow toward the blade, keeps the cutting line from being obscured by chips or sawdust.

Made by: RCS Tool Sales Corp., Joliet, Ill.

FOR Quality INSTALLATIONS



WRITE FOR COMPLETE INFORMATION

BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

ANCHOR HAS EVERYTHING THEY LOOK FOR

Because This New, Improved Burner Reduces Fuel Costs As Much as 36% a vast new field of prospects is open to you.
Many of your "borderline" prospects . . . prospects who wanted oil heat but were afraid of the cost . . . can now become your satisfied customers. This new Anchor Oil Burner *proves* it reduces fuel costs an average of 25% . . . in many cases as high as 36%. What's more, an entirely new SOLENOID FUEL UNIT assures positive, split second cutoff of fuel whenever burner turns off . . . thus eliminating after-fire smoke and soot. Burner mounted controls saves you expense in wiring. Write for details.

ANCHOR DIVISION, STRATTON & TERSTEGGE CO., Inc.

P. O. BOX 311, NEW ALBANY, IND.

Automatic Even Heat Distribution

No. 1
Gorton Air Eliminator
⅜" vertical connection
For Mains and Unit Heaters

With Gorton Valves every radiator is made to automatically heat ***evenly*** and ***quickly*** — WITH OUNCES OF VAPOR INSTEAD OF POUNDS OF PRESSURE.

Send for free new Sizing Plate and literature

GORTON HEATING CORP.
SINCE 1887
Manufacturers of High Grade Heating Equipment
CRANFORD • NEW JERSEY

Made with 5 sizes
of air outlets
No. 4, 5, 6, C and D
Standard ⅛" side connection
For Radiators

Useful Ideas

(*Begins on page 70*)

"The secondaries of two transformers are connected together by high tension leads. You feed 110 volts into the primary of one transformer. If both transformers are good according to this test, you get a reading of about 115 volts from a voltmeter connected to the primary of the other transformer."

John Byrnes did say you read 115 volts coming out when you put in 110 volts, but we think he meant to say 110 volts in both places. Also, shouldn't the transformers be similar in make and model, and wouldn't some interesting results come of reading the voltmeter while you placed different loads, say from five to 50 watts, across the primary of the second transformer? Better use another voltmeter across the 110 volt line also, to check on the house current and make certain it's not 85 volts as it is sometimes in our neck of the woods. What about that?

This one, swell for dealers servicing wall flame rotary burners and maybe useful for gun burners fitted with certain kinds of solenoid valves that can start and stop the flow of oil from the nozzles, comes from Warren T. Hanna, Box 74, Natick, Mass.

"Regarding burners with solenoid valves (rotaries and the new gun design):

"If the starting winding of a motor gives trouble and heat is needed, take these steps:

"First, disconnect the motor from the solenoid valve wires.

"Second, hook the motor up direct, i.e., before the relay or directly after the limit switch.

"Third, re-connect the solenoid valve back to the #3 terminal of the burner-control panel.

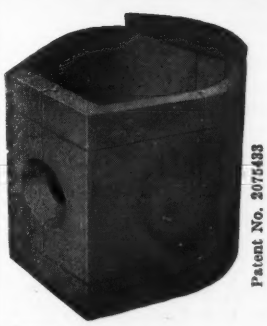
"Fourth, put the thermostat on heat call, snap on the main switch, and spin-start the motor. The burner will start, the flame will light.

"To test, push the thermostat down. The solenoid valve will close and the flame will go out. The motor, of course, will continue to run. Push the thermostat back up and the oil will flow and the ignition system will operate, giving you fire.

"The burner operated this way will give heat for days if necessary. Meanwhile, you do something about getting a good motor to replace the one that won't start by itself."

Warren Hanna's idea, and it's brand-new and excellent for many experts at servicing all makes of burners, consists simply of keeping running a motor which is sick and so can't start by itself, and using the solenoid valve

QUICK HEAT UP



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COMBUSTION CHAMBERS
SOLD BY
LEADING JOBBERS
NATIONALLY

Write for our new Catalog which contains complete information, and specifications on Combustion Chambers.

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JACKSON & CHURCH
OIL-FIRED
WINTER AIR CONDITIONERS
DOMESTIC, COMMERCIAL, INDUSTRIAL
FROM 3,800,000 BTU
DOWN TO 52,000 BTU OUTPUT

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AMERICA'S LARGEST AND MOST COMPLETE WARM AIR HEATING LINE

A PRODUCT OF
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SAYBOLT Calibration Can Save You Money

HERE'S HOW: Saybolt Calibration insures accuracy in fueloil meters, tank trucks, and bulk storage tanks, thus preventing small daily losses which total hundreds of dollars annually.

Saybolt Calibration Service prevents profit leaks and pays for itself many times over in fueloil savings. Contact any of the 50 Saybolt offices in the United States and foreign ports, or write to:

E. W. SAYBOLT & COMPANY

Serving the Petroleum Industry for Over Half a Century

265 BAYWAY **ELIZABETH 2, N. J.**

to start and stop the oil flame. All the controls stay in operation, of course. If the flame fails to light, for example, and the burner should go off on safety, the solenoid valve snaps shut and won't open again until someone re-sets the safety device. The odd part of the thing, which will tickle many service men, is that the motor of the burner will go right on running when the burner actually is off on safety.

"*It would,*" *adds Warren Hanna, "if the burner were to remain running in this way for any length of time, be practical to hook up for constant ignition (where a burner regularly is wired for intermittent ignition) and to raise the limit control to its highest practical setting.*"

Seemingly he's afraid the high limit control may snap "off" and stop the sick motor, which can't start again by itself. The motor could be hooked right across the line so that no controls or switches could stop it, especially if it has built-in overload protection or if you provide a time-delay type fuse in its line to protect it against overload trouble. How about that?

One more idea from Warren Hanna, perhaps not new, but then not used by all service men:

"*This applies to pressure burners having inside tanks that put a head of oil on the burners' strainers or filters.*

"*Rather than purge a pump after you work on its strainer or filter, save time by opening the oil valve in the line just before you make up tight the cover of the strainer or filter. The incoming oil expels the air from the strainer body, for example. After a lit-*

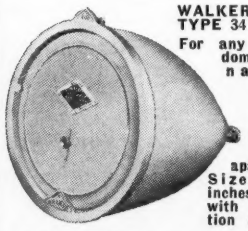
"IT'S A *Rybolt*"

FOR ALL FUELS AND HEATING NEEDS

RYBOLT heating units come in all sizes . . . in steel or cast iron . . . fired by oil, coal or gas . . . for all home heating requirements. The line . . . including gravity furnaces as well as the most advanced forced air units . . . is complete, well balanced and modern throughout.

THE RYBOLT HEATER COMPANY

Ashland, Ohio

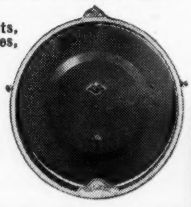


WALKER TYPE 34

For any type of domestic furnace in homes, stores, small office buildings and apartments. Sizes 6-20 inches. Shown with installation collar.

COMMERCIAL AND INDUSTRIAL

For power plants, schools, garages, industrial plants, laundries, and other commercial uses. Built to meet most severe conditions. Ball bearing. Sizes 16-36 inches.



Help Your Customers

SAVE UP TO 25% ON FUEL!

Now, you can offer savings up to 25% on ALL types of fuel . . . coal, gas, oil . . . with the new, improved Walker Draft Regulators. Assure maximum, economical combustion under ALL stack conditions. Quickly installed. Easily adjusted. Guaranteed.

Over 7 million in use!

Sell this fast turning, profit-line of draft regulators. WALKER quality makes customers. See your jobber or write WALKER MFG. & SALES CORP., 1701 Penn St., St. Joseph, Mo. Do it NOW!

WALKER *Automatic* DRAFT REGULATORS

Looking for Results?

TRY "KEK" on that TOUGH JOB GET ANY BOILER CLEAN

SAFELY and SURELY

REPAIR that LEAKY BOILER *with the* NEW

"REP" BOILER REPAIR

Successor to Kenite Boiler Repair

PERMANENT — ODORLESS

Ask Your Jobber or Order Direct. Jobbers Protected.
Write for FREE BULLETINS

KENITE LABORATORY

Madison New Jersey

WHY IS A SIMPLEX SIMPLE TO SERVICE?

SIMPLEX PNEUMATIC TURBINE TYPE HEAVY OIL BURNERS

Every SIMPLEX has a minimum of moving parts to get out of order. Every SIMPLEX uses a **standard,** nationally recognized motor.

Add the fact that SIMPLEX heavy oil burners are priced for a whale of a dealer profit, and you know SIMPLEX offers an attractive dealer proposition.

A note on your letterhead brings the details.

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SERVING THE ST. LOUIS TRADE AREA

Authorized Fuel Unit Service Station

Stoker and Oil Burner Parts

FUEL UNITS
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FILTERS
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FITTINGS
NOZZLES
CONTROLS
OIL TANKS

CONTROL

REPAIR EXCHANGE SERVICE

SEND US YOUR ORDERS OR INQUIRIES

CRESCENT PARTS AND EQUIPMENT CO., INC.
825-831 S. Boyle Avenue St. Louis, Missouri

STOKER & OIL BURNER M-H, PERFEX PENN

tle practice you can do this rapidly and without spilling oil."

Another New Englander comes up with an idea on easing up work on filters; this item comes from Kenneth B. Wheeler, 128 Young St., Manchester, N. H.

"Working on certain types of filters, I used to have a hard time making sure the cork gasket was properly centered in its groove after changing a cartridge. Now I just wipe the oil from the groove with a cloth, coat the top side of the cork gasket with oil line cement, and stick it in the groove.

"It makes changing cartridges easy and I have no worries that an oil leak will show up after I leave, due to an improperly centered gasket. Doing this for three years now, I find the gasket comes out better than when put in without cement."

This good idea speaks for itself, comes from George E. Toles, 35 Central Ave., Hamburg, N. Y :

"A new arrangement for unloading oil barges effectively and at low expense has been installed at the marine terminal of the King Fuel & Heating Oil Sales Co., Green Island, N. Y.

"This arrangement consists of two welded steel booms of tubular members, about sixty feet long, easily raised or lowered, and is an important innovation in that it eliminates the need for a landing platform.

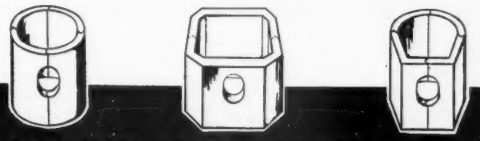
"The new booms were designed and constructed through the combined efforts of Daniel J. King, president of the oil company, and Schuyler A. Whitney, chief engineer of the West Side Structural Co., Watervliet, N. Y.

FOR BETTER FIRES

IRON-HIDE

CHAMBERS-BAFFLES-SUPPORTS

Write for details and prices NOW!



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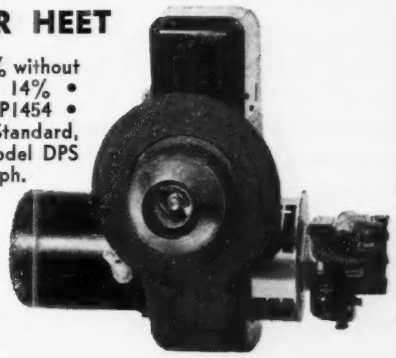
DOCK STREET MATAWAN, N. J.

PARK BETTER HEET

Savings as high as 20% without smoke • Co2 up to 14% • Underwriters' Lab. MP1454 • CS75 Commercial Standard, Mass. No. 1090 • Model DPS from ¾ to 6 gph.

Send for FREE Fire Box Calculator.

SHELL DESIGNED HEAD



Park Oil Burner Mfg., 217-225 N. South Carolina Ave. Atlantic City, N. J.

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WEBBER Catalog #14

Write For Your Copy NOW On Your Letterhead.

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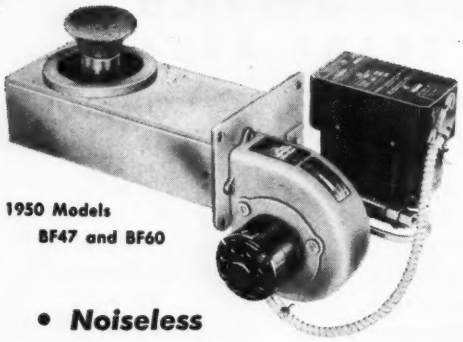
Sure, you'd like to eliminate downdraft problems!

You're bound to run into trouble now and then with jobs that cause too much soot, and waste heat because of tricky downdraft. THERMCAP will help you eliminate downdraft trouble completely—it controls draft at the top of the chimney, and keeps flues dry and soot-free. Try THERMCAP on your most troublesome job—you'll see immediate combustion improvement, and a definite saving in fuel. Satisfaction is guaranteed! Write for profitable dealer offer and literature.

WIGWAM FLUE TOP CO., Abington, Mass.

Here's the Ideal Lowest Cost Burner for Small Homes



1950 Models
BF47 and BF60

- Noiseless
- Economical
- Trouble-Free

KRESNO-STAMM
Since 1927

Ball Flame
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OIL BURNER

The completely automatic mechanical draft burner designed for small home projects, and for quick, easy, inexpensive conversion jobs. No other oil burner equals this compact packaged unit for low initial cost, ease in installation, efficient operation and low fuel consumption.

Write for full story today.

KRESNO-STAMM MANUFACTURING CO., (America) Inc.
General Offices and Plant: PALISADES PARK, N. J.
Kresno-Stamm Mfg. Co. (Canada) Ltd. • 1452 Drummond St., Montreal 25, P. Q.

"Mr. King had been trying for some time to devise an exceptionally practical and low-cost method for docking oil barges which stop to unload their cargoes at his Green Island terminal near Troy, N. Y.

"He considered the old method of docking complicated and expensive. A floating barge had to be anchored off the shore by two heavy timbers. The first cost of such a barge is high. Its maintenance is high because every so often it must be pulled from the river, repaired, calked, and painted.

"Floating barge landing platforms are used instead of permanent docks because the United States Government does not permit extending permanent structures into navigable channels, in this instance the Hudson River. A floating barge may be used because it can be removed from the river.

"Mr King outlined to Mr. Whitney the thing he had in mind, and Mr. Whitney designed the details of the two booms, which were then constructed and installed.

"An oil pipeline is connected to one of the booms. The booms extend over the river to the 14-feet depth of water. At present they are raised and lowered by hand, but Mr. King is planning to install a power-driven winch.

"Able to withstand 50 tons of pressure, the arrangement is more than firm enough to hold the oil barges moored to the ends of the booms."

Mr. Toles does not say if a rowboat is used to get the oil barge from shore, or if Dan King is teaching his men to follow him when he does a sprint to the barge over the sixty-feet long boom. How about that?

The next issue of FO&OH will have the second batch of ideas that came close to winning prizes, or that stand out among the contest entries for a particular reason.

❖

Charles A. Neiman, chief engineer, and *John Kearns,* general works manager, York-Shipley, Inc., York, Pa., at a meeting of the board of directors were elected vice presidents in charge of engineering and production, respectively. *Dean D. Barbor,* formerly secretary and assistant treasurer was elected secretary-treasurer and *E. A. Schaefer* was named assistant secretary. Mr. Neiman has been with York-Shipley since 1942 and became chief engineer in 1946. Mr. Kearns joined the company in 1942, became production manager in 1945 and general works manager in 1949. Mr. Barbor took charge of the accounting department in 1944 and was named assistant treasurer a year later.

Neiman Kearns Barbor

Earl H. Norby has been appointed air conditioning and heating representative, McQuay, Inc., Minneapolis, Minn. He will make his headquarters in Seattle, working in the western half of the state of Washington.

$ $ $ $ $ $ $ $ $ $ $ $ $

YOU CAN MAKE a DOLLAR a MINUTE

installing Round, Square, Rectangular, or Pear-Shaped

PANELOX (Trade Mark Reg.) HEAT RESISTANT STAINLESS STEEL COMBUSTION CHAMBERS

Installed in minutes. Heat up in seconds. Stand up for years. Reduce noise, smoke, soot and oily film. Provide more even heat. Require no back-fill. No cement. No tools. Panels slide together easily. Light weight. Easy to handle. No breakage.

Write, Wire or phone for sizes, prices and Dealer Discount

STEFCO STEEL CO. Heating Division
Dept. FO Michigan City, Indiana

$ $ $ $ $ $ $ $ $ $ $ $ $ $ $

LACK OF CASH SHOULDN'T STOP YOU

The cost of money from Lexington on accounts receivable is only a small part of the increased profits made possible for the oil dealer who is on his toes.

Send for descriptive circulars and see if our service is the answer to your financing problem.

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M. S. Lurio, Pres.
Fuel Financing from Maine to Maryland
10 Milk Street Liberty 2-6878 Boston, Mass.
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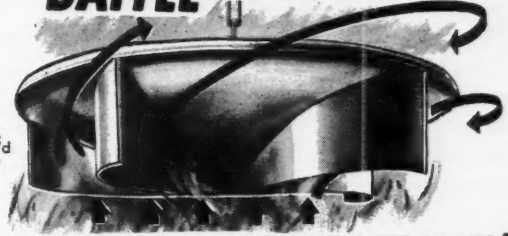
SILLY-BOY—A CONVERSION WITHOUT A FIRE-SWIRL ALWAYS USES MORE FUEL-----

SWIRLING ACTION BAFFLE -------

Pat. Appl'd For



LOWER STACK TEMPERATURE AND AMAZING FUEL SAVINGS WITH THIS NEW PRINCIPLE — SWIRLING ACTION — GET THE FACTS.

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ZEH COMPANY, Inc.
Box 33, Passaic, N. J.
Please send complete facts about Fire-Swirl.
NAME .....
ADDRESS .....
CITY ..... STATE .....

MAIL THIS COUPON TODAY

R. H. Weigel has joined National Radiator Co., Johnstown, Pa., as senior research engineer, to work on development of new heating products. For the last three years Mr. Weigel has been a special research assistant at the University of Illinois, participating in the I-B-R program of heating research.

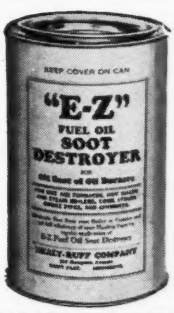
Jack Hallanan named assistant vice president and *E. J. Zisek* to the position of general sales manager are new appointments announced by the Cyclotherm Corp., Oswego, N. Y. *R. P. Leonard* has become assistant general sales manager to aid Mr. Zisek. Mr. Hallanan has been with Cyclotherm in various executive capacities since 1940; Mr. Zisek, formerly New York City factory branch manager has been associated with the company products for the past 5 years.

S. A. Durbin has been appointed product planner, Military Products, within the Air Conditioning Dept., General Electric Co., Bloomfield, N. J. His activities will include heating equipment which may be contracted for by the Government for military or defense purposes, encompassing standard units, as well as those which will be designed and built for special applications. He has been with the Air Conditioning Department since 1932.

Col. Miles H. Knowles has been designated a vice president of United States Radiator Corp., Detroit 26, Mich., in charge of its defense production activities. He will make his office in Washington.

E-Z Extra PROFIT

Soot Destroyer



(For fuel oil soot only.) Keep a supply on every Service Truck. Sell cleaning jobs. Use *E-Z*. One application does a thorough soot cleaning job. Saves time. Pays extra profit. Sell one-lb. cans to customers. If your Distributor cannot supply you, order direct.

No. 1 Pkg. approx. 1 lb. . . . List $1.00 ea.
No. 5 Pkg. approx. 5 lbs. . . List $4.50 ea.

Special discount to Distributors on quantities.

HEALY-RUFF COMPANY
797 Hampden Avenue • St. Paul 4, Minnesota

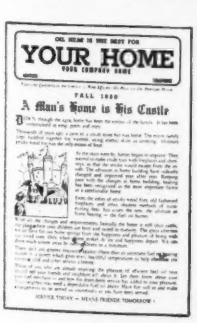
RAJAH TERMINALS

FOR OIL BURNER SPARK PLUG IGNITION CONNECTIONS
Made in Two Styles
CRIMP TYPE and SOLDERLESS

Code No. C/T #11 Code No. S-SOS #11

THE RAJAH CO. BLOOMFIELD, NEW JERSEY

Build Customer Goodwill and Increase Sales with "YOUR HOME"



An attractive, 3 color, 4 page quarterly publication, *imprinted with your name and apparently published by you.* "YOUR HOME" will build customer goodwill, increase heating equipment sales. You can send this highly effective pamphlet to each of your customers, *regularly*, at a very small cost. Send for sample copies and prices NOW.

— • —

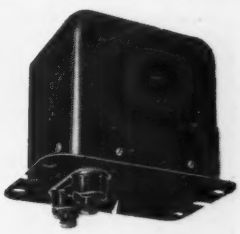
Ask for Free Samples of our personalized Christmas and New Year Greeting Cards designed especially for the Fuel Oil Trade.

GRIECO PRINTING COMPANY
353 36TH STREET BROOKLYN 32, N. Y.

DONGAN TRANSFORMERS

The Result of 41 Years of "Know-How"

Dongan Transformers are the embodiment of 41 years of experience in the specialized field of transformer design and construction. This accounts for their many outstanding features — features which have made the name Dongan the synonym for dependability in oil-burner ignition.



Voltages from 5,000 to 20,000. A variety of sizes and mountings. Special types built to specifications.

Dongan Electric Manufacturing Co.
2981 Franklin Detroit 7, Mich.
"The Dongan Line Since 1909"

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Buy your oilburner parts, accessories and materials from us. We have satisfied customers all over the country. Give us a try!!

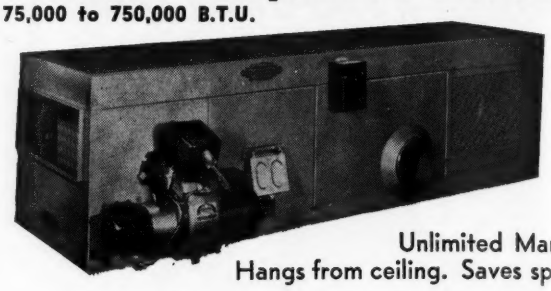
THRIF-T-HEAT JET FLAME BURNERS & No. 5 & 6 Oil Rotaries.

Westchester Home Equipment Co.

432 Austin Place New York 55

ARTCRAFT Suspended Furnace

75,000 to 750,000 B.T.U.



Unlimited Market!
Hangs from ceiling. Saves space.

Easily Installed and Serviced

CHICAGO STEEL FURNACE CO.

9326 S. Anthony Ave., Chicago 17, Ill.

Profit Objectives

(*Begins on page 51*)

with operations under varying circumstances, and as applied to competitive economics of petroleum distribution.

These percentages must not be misconstrued as either maximum or minimum standards. It is suggested that they be applied to your business to determine the extent to which your operations are either above or below the percentage applicable to your particular business. If you do this you will find that it will provoke a great deal of consideration of the financial aspects of your business which you might not have heretofore given it.

In considering net profit ratios, I am going to risk over-simplification rather than long technical discussion.

Variable factors, from one company to another, such as the proportions of a company's balance sheet, its ratio of current assets to current debts, capital investment and funded indebtedness requirements, principals' salaries, taxes, surplus and others, make it quite impracticable at this time to set up general net profit objectives.

Each company's particular financial problem involving distribution of its gross operating profit among these variable factors will determine the desirable final net profit.

As we go into the future and some day obtain sufficient financial data regarding petroleum distribution, it may be possible to establish net profit financial ratio objectives. However, to be successful a particular business must be able to predetermine the net profit it should make on net sales, on tangible net worth and on net working capital and it is suggested that if the distributor of fueloil and/or oilheating equipment who has not taken such steps up to this time should do so for greater progress in his business.

❖

Russell Jackson, senior methods analyst, systems department, Socony-Vacuum Oil Co., was a speaker at the two-day conference sponsored by the American Management Association, October 30 and 31, New York City. He discussed the protection of office records in wartime.

Oilheating Trends

(*Begins on page 12*)

were 62,594,000 barrels. This compares with 66,876,000 barrels on the corresponding date of 1949. Midwest stocks were actually higher by nearly 2,000,000 barrels while the East coast and Gulf coast are correspondingly lower.

MANPOWER: There has been only a little change from the previous month in the number of men lost by oilheating dealers to the armed forces. On October 1 the total was a little over 1300 compared with 1100 the previous month. There also have been about a thousand lost to war industries. These figures would be insignificant but for the fact that the industry already was badly strained with peak level installations.

DEALER COMMENTS: Typical comments by dealers on questions of the month were: "All large buildings and schools in our city are putting in combination gas and oilburners" . . . "Discontinuing gas has put oilburner sales right up to expectations" . . . "Business is good but not as rushing as two

McCORKLE CONTROLS for Vaporizing Oil Burners are designed to **GIVE**—not require **SERVICE**

Less service means greater customer satisfaction—increased profits—more new business

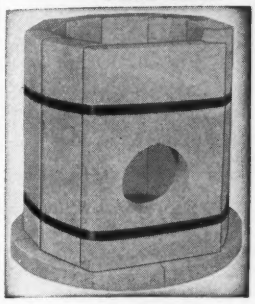
- Patented dual blade bi-metal assembly—insures trouble-free operation—supplies a wide margin of extra power.
- More rapid heat transmission.
- Adjustable snap acting Micro-switch.
- Heavier, more rugged construction.

D. H. McCORKLE CO.

Box E, Station A Berkeley, California

FOR BETTER HEATING

"American" Combustion Chambers



American chambers for domestic oil burners are recognized for these features:

BETTER PERFORMANCE — American light weight refractory chambers give you fast heat-up, quiet operation and fuel savings that mean satisfied customers.

HIGH QUALITY—Only high grade refractories built to withstand 2500° operating temperatures are used.

EASY INSTALLATION—Controlled manufacturing and careful design give you flexible pieces that fit together with a minimum of effort.

We invite your inquiries on standard or special shapes.

THE AMERICAN CLAY FORMING COMPANY

TIFFIN, OHIO

Twenty-seven years making quality refractories for the heating industry.

Oil and Gas Burners Interchangeable

EASIER TO SELL

in 9 out of 10 Homes • New or Old

ALDRICH *Compact* BOILER BURNERS

● Cut your inventory – have the right boiler burner unit for the 9 out of every 10 homes using oil or gas. Aldrich in 7 sizes – 100,000 to 808,000 BTU/Hr. Vertical tube type. Fully automatic controls available. For steam or hot water heat or hot water supply. You get them packaged, fully assembled, ready to set in place and connect. Easier to stock, easier to sell, easier to install – you make more profit.

ALDRICH HEAT-PAK PRODUCTS

The **ALDRICH** Company

103 East Williams St., Wyoming, Ill.

A Subsidiary of Breeze Corporations, Inc.

ANOTHER BREEZE MARK PRODUCT

months ago" . . . "Demand for oil installation is very heavy; we have been sold out for 60 days" . . . "The way everyone is stocking up we expect a setback after January" . . . "We do not understand the shortage of 275 tanks; it looks like the industry should get together to promote the manufacture of these" . . . "Tanks are plentiful if you want to pay the price but very slow delivery at nominal price" . . . "The oil supply picture will not look rosy in the East come January if we have a hard winter" . . . "Storage facilities in this area have not been expanded and dealers who do not sell oil are putting in burners at a terrific rate; dealers who sell oil are cutting down on burner sales" . . . "Material suppliers and manufacturers raise prices faster than we can raise them to the public" . . . "Unseasonable cold weather has stimulated sales and customers are hollering for installation orders just placed" . . . "We can't get enough good men at good wages" . . . "Replacement sales are running much higher than ever before" . . . "The tank price is a racket; I have bought steel sheets at only a small markup over June price but cannot get a tank manufacturer to make them up for less than $45" . . . "Major oil companies are talking shortages and refusing business from anyone whose source of supply is divided between majors and independents" . . . "Our September sales are below August sales because too many people have already bought their winter supply of coal, very unusual for us" . . . "Since labor and taxes are ruining business we have a fine comedy act for television."

SOOT-GO SOOT DESTROYER

STILL THE BEST for cleaning oil and gas-fired heating plants.

EFFICIENT AND ECONOMICAL TO USE

ALSO:

SLUDGE-GO for Cleaning Fuel Oil Tanks and Will Emulsify Water.

EZ-E WELD for Sealing Leaky Boilers. No After Odor. No Draining.

Write for name of nearest jobber

KALMIDE CHEMICAL CO., INC.

17 East 42nd St. New York 17, N. Y.

Turn Your DEFECTIVE PARTS into CA$H

We will pay you $3.00 each for the following STACK RELAYS

MINN.-HONEYWELL	MERCOID	PERFEX	PENN	
RA116	JMI	5200	670	DELCO-COA
RA117	JM	5500	672	
R116	KMI	5520		D-L - CA701
R117				

We will pay you $2.00 each for the following FUEL UNITS

WEBSTER SUNDSTRAND TUTHILL

We will pay you $1.00 each for the following OIL BURNER IGNITION TRANSFORMERS

WEBSTER JEFFERSON SUPER TIMKEN DELCO WAYNE GILBARCO

THIS OFFER GOOD FOR 30 DAYS ONLY

ALBANY AUTOMATIC SUPPLY CO. INC.

28-30 MADISON AVENUE ALBANY 7, NEW YORK

PREFERRED

DRAFT-A-JUSTORS

Cut Fuel Consumption by

10% TO 30%

The *Preferred* Draft-A-Justor is the original, patented Draft-A-Justor . . . improved to include the latest in engineering developments.

Stainless steel bearings and weather resistant metals provide long-life service without breakdown due to rust or wear . . . assure *continuous* fuel savings.

Millions now in satisfactory use.

WRITE FOR DESCRIPTIVE LITERATURE AND TRADE PRICES.

SIZES

Stove, domestic and commercial sizes from 4" to 24" in diameter.

Industrial sizes from 2' x 2' to 5' x 12'.

PREFERRED UTILITIES MFG. CORP.

1860 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

RAYFIELD BURNERS
FOR No. 4 or No. 5
HEAVY OILS

MODEL JR.
1.00 to 5.00 GALS./HR.
MODEL D4
3.00 to 12.00 GALS./HR.

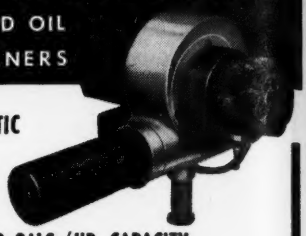
1. Fully Automatic
2. Self Cleaning Nozzle
3. Self Lubricating
4. All Electric Operation
5. Pays for itself from savings
6. Burns the cheaper No. 5 oil

RAYFIELD
AUTOMATIC

HEAT RECLAIMERS

1. Low in Price—Automatic—Easy Installation
2. Installs on Boilers, Furnaces or Stoves
3. For use with Coal, Gas, Oil or Wood
4. Increases output of ANY gravity warm air furnace
5. Heats Basements, Play Rooms, Garages, etc.
6. The hotter the stack—the more heat reclaimed
7. Saves wasted heat now going up the chimney

PATENTED COMBUSTION
HEAD OIL
BURNERS



for CATALYTIC
OILS TO
#3 GRADE
2 MODELS
1.00 to 3.00 GALS./HR. CAPACITY

1. Amazing Economy 12 to 15% CO_2
2. Clean boilers with perfected combustion
3. Burns Catalytic oils easily
4. Quiet—No Vibration or pulsation
5. Cuts user's oil bills 14 to 36%
6. The ideal replacement oil burner

C. L. RAYFIELD COMPANY • 2010-18 SO. HALSTED ST. • CHICAGO 8, ILL.

STOP

FUEL OIL TANK LEAKS
IN 2 MINUTES WITH A

TANKIT

Avoid

Costly
Pump outs
•
Damage
to Cellars
•
Loss of Time
•
Lack of Heat
•
Loss of
Customers
•

Replace the Tank at your Convenience

•

TWO SIZES
Junior for small leaks
Senior for porous areas
(18 Sq. In. Patch)

Available at your Supply House
or write for information

*Reg.
Pat. Pend.

THE TANKIT COMPANY
Cedarhurst, L. I., N. Y.

DEGREE DAY TABLES

ONE MONTH ONLY — September Normal	1949	1950	Percent Change*		SEASON TO DATE (Sept. 1 to Sept. 30) Normal	1949	1950	Percent Change*
116	208	215	+ 85.3	Albany	116	208	215	+ 85.3
12	32	21	+ 75.0	Atlanta	12	32	21	+ 75.0
34	54	61	+ 79.4	Baltimore	34	54	61	+ 79.4
98	105	149	+ 52.0	Boston	98	105	149	+ 52.0
125	206	155	+ 24.0	Buffalo	125	206	155	+ 24.0
84	126	41	— 51.2	Chicago	84	126	41	— 51.2
52	86	46	— 11.6	Cincinnati	52	86	46	— 11.6
92	126	90	— 2.2	Cleveland	92	126	90	— 2.2
5	5	0	..	Dallas	5	5	0	..
124	76	172	+ 38.7	Denver	124	76	172	+ 38.7
99	164	54	— 45.5	Des Moines	99	164	54	— 45.5
109	182	106	— 2.8	Detroit	109	182	106	— 2.8
126	224	110	— 12.7	Grand Rapids	126	224	110	— 12.7
106	132	183	+ 72.6	Hartford	106	132	183	+ 72.6
288	301	360	+ 25.0	Helena	288	301	360	+ 25.0
..	1	0	..	Houston	..	1	0	..
65	117	61	— 6.2	Indianapolis	65	117	61	— 6.2
50	79	34	— 32.0	Kansas City	50	79	34	— 32.0
5	0	0	..	Los Angeles	5	0	0	..
34	78	38	+ 11.8	Louisville	34	78	38	+ 11.8
120	179	113	— 5.9	Milwaukee	120	179	113	— 5.9
163	211	100	— 38.7	Minneapolis	163	211	100	— 38.7
..	138	0	..	New Orleans	..	138	0	..
51	53	87	+ 70.6	New York	51	53	87	+ 70.6
81	137	77	— 5.0	Omaha	81	137	77	— 5.0
36	46	85	+136.1	Philadelphia	36	46	85	+136.1
69	120	78	+ 13.0	Pittsburgh	69	120	78	+ 13.0
179	239	312	+ 74.3	Portland, Me.	179	239	312	+ 74.3
109	59	90	— 17.5	Portland, Ore.	109	59	90	— 17.5
104	100	163	+ 56.7	Providence	104	100	163	+ 56.7
46	93	91	+ 97.8	Roanoke, Va.	46	93	91	+ 97.8
36	70	25	— 30.6	St. Louis	36	70	25	— 30.6
95	42	113	+ 18.9	Salt Lake City	95	42	113	+ 18.9
122	106	122	..	San Francisco	122	106	122	..
281	355	328	+ 16.7	Sault Ste. Marie	281	355	328	+ 16.7
174	112	128	— 26.5	Seattle	174	112	128	— 26.5
98	203	105	+ 7.1	Toledo	98	203	105	+ 7.1
43	55	57	+ 32.5	Washington	43	55	57	+ 32.5

*Compared with normal. Note: Above figures secured from Monthly Meteorological Summaries published by U. S. Weather Bureau offices in individual cities.